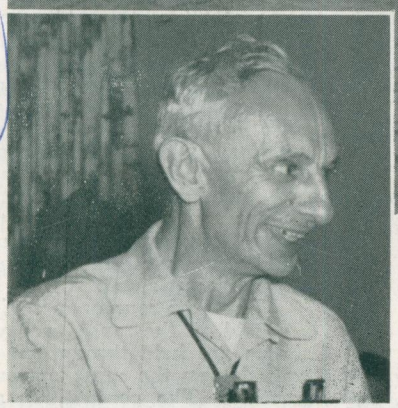
Precision SHOOTING

February 1959
Vol. 3, No. 10
35 cents

Apr. 59



THIS MONTH

PRECISION BULLET CASTING
by Kent Bellah

REMODELING LOADING PRESS AND BULLET SIZER
by Frank de Haas

STOOL SHOOTIN' STUFF
Ernest Stuhlschuter

LETTERS AND EDITORIALS

a magazine for Shooters by Shooters

Precision Shooting is published monthly by Precision Shooting, Inc.

Editorial and business office at 64 Depot Street, Lyndonville, Vt.

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Subscription rates:—To the U. S., Canada and Mexico, 1 year $4.00, 2 years $7.00, 3 years $9.00. All other countries $1.00 per year additional.

Change of address requires 30 days' notice.

Authorized advertising representatives:—Howland & Howland, Inc., 114 East 32nd Street, New York 16, N. Y.

Precision Shooting is entered at Post Office, St. Johnsbury, Vt. as second-class mail.

NATIONAL GUARD RANGES

The situation of high rental rate being demanded of civilian rifle clubs for use of National Guard Armory indoor rifle ranges in Vermont, as reported in the January issue, has now been corrected.

Evidently the civilian rifle clubs that have been using the National Guard ranges went to bat for what they believed to be their rights, with success. The range rental order has now been retracted. The civilian clubs are required to pay the Armory janitor his regular wage scale for the time he is required to be on duty while the ranges are being used by the clubs, which is a reasonable requirement since these are additional hours for the janitors.

The fact that rentals for civilian use of public owned facilities were ordered, even in error, should serve as a warning to all citizens, rifle club members and others, to maintain eternal watch for public servants who may start grownig "too big for their britches."

PHT

THE URGE TO WIN

It is this writer's considered opinion that the difference between winners in shooting competitions and those "who also shot," even to the match tail-enders, among shooters of some experience, can be measured by the difference in strength of "the urge to win" in each individual shooter.

One satisfying thing about writing is that you can make your statement and have time to defend it before getting interrupted and all fouled up in your arguments.

People who engage in organized target shooting do like to shoot in company with other people. When groups of people shoot together there is bound to be competition, and where there is competition there is bound to be a winner or winners. There is also bound to be "tail-enders" and "in-betweeners." That holds true in shooting clubs, even in small clubs. However, for a considerable number of shooting people, it is not essential that they be top winners, even occasional ones, in order for them to have a continuing enjoyment from the sport of target shooting. Do you know of a single shooting club that doesn't have in its membership a portion of that type of people who are among its most loyal and hardest working members?

ANYONE can become a reasonably consistent winner in **SOME FORM** of target shooting **IF** that person has "the urge to win" strong enough to spur him on to spend the time and effort necessary to develop the skill for winning.

Some will claim they do not have the time for the practice and training necessary to become a winner. **TIME** is the one thing in this world that every single one of us has an equal amount of—24 hours in each and every day. While most of us have to use some of that 24 hours to earn a living, a certain portion of it for necessary sleeping and other normal living chores, every one of us has some portion of that 24 hours every day which we can spend just as we darn please. How you spend your hobby or pleasure time, or fritter it away, is up to you. Me? I like variety in shooting, a lot of it. and my "urge to win" just flickers.

Some will say they do not have the money to spend for top-notch equipment and the necessary ammo for the practice needed, and that may be true in some cases. But most of us have some money to spend for pleasure and hobbies and if we want something bad enough we'll usually pass by some less desirable things in order to get THE THING we really want most—another case where "the urge to win" may get in its licks.

A lot of us in whom the "urge to win" is a pretty weak spark will continue to shoot this and that, none of it terribly bad but none of it really good, and keep having fun doing it—jacks of several kinds of shooting but masters of none.

For the shooter who has or gets "the urge to win," be he beginner or one well past the "beginner" stage, we suggest

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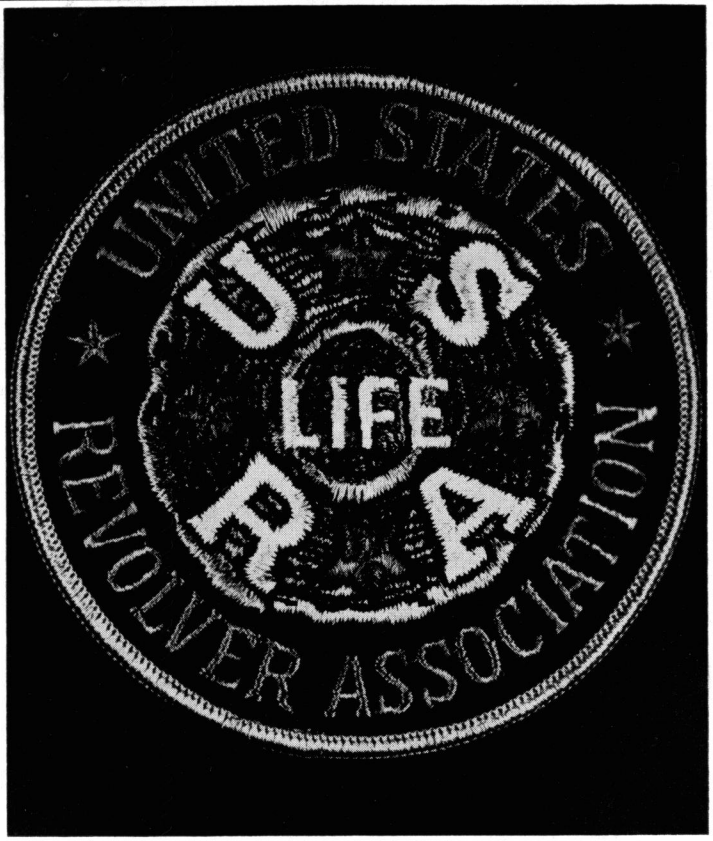

UNITED STATES REVOLVER ASSOCIATION

is a non-profit organization for pistol and revolver marksmen, the oldest in the country. Member organization of U. S. Olympic Association, and the International Shooting Union. Member's bassard, pictured, is the official seal, an expanded handgun bullet. Membership dues are $3.50 per year, or life membership $35, open to all good citizens. Price includes a subscription to the official magazine, "The U. S. Handgunner." Address: U. S. R. A., 59 Alvin Street, Springfield, Mass.

THE COVER PHOTO

The firing line and comfortable club house of the Reed's Run Rifle Range in a pleasant setting, located directly on Ohio Route 9, one mile south of the village of Augusta, Ohio and four miles north of Carrollton, Ohio.

The 12 bench firing line has an 80 X 12 feet cover and the range is completely wired for lights and power to operate the moving backers at 100 and 200 yards. The main club house is 24 X 36 feet with a 12 X 12 feet wing for the kitchen.

The water in the foreground is in one of the two artificial lakes on the property. On the far side of the buildings is a small stream which in 1959 will have a foot bridge giving access to a new parking lot which will be ready at that time.

The Club has some 30 members, all bench rest shooters, who come from all parts of Ohio, Pennsylvania and Michigan. On the opposite side of the lake from the range and club house is a pine plantation and a nice picnic ground which is open and available to members. The Club does not own the grounds or the buildings, which are the property of W. M. Brown, Box 66, Augusta, Ohio. The club members feel, however, that for the modest membership fee that the Browns charge they get more pleasure than they could anywhere else on earth for the same amount spent.

Three or four open registered shoots are held on the range each year and club shoots are held throughout the year except during the most extreme of winter weather. The competition at this range is really stiff, even in club shoots, but many new rest shooters break in on this range and advance rapidly under the guidance of the club's experienced and capable members.

OUTSTANDING OFFHAND SHOOTING

The composite 100 shots at 100 yards target illustrated was shot in one day, with witnesses, on Bob Hutton's RIFLE RANCH near Santa Monica, California. Since there is presently no comparable course of fire for offhand shooting we do not know how this score may compare with former outstanding offhand scores for this number of shots in one session. We hope that some of the older shooters who are familiar with long-string offhand records of earlier years will evaluate this target and send us their judgment on it.

Rudolf "Rudy" Kamila, who shot the target and who now lives in West Los Angeles, is no "Johnny-come-lately" at offhand shooting. Before moving from Massachusetts to California several years ago, Rudy had for several years been recognized as one of the top offhand shooters in the New England area. He is one of the shooters from the South Shore area of Massachusetts who have been coached by oldtimer Phil Brooks, who gained his offhand know-how from Dr. Hudson, Arthur Hubalek, and other famous offahnd shooters of that era.

Incidentally, Bob Hutton's range was in the area of the disastrous fires in December, and was in the path of the second of those fires. He writes:

"This time the fire did get us. Luckily the LAFD got in a big tanker and the only actual loss was a new little shooting house. All of the scopes, guns and about $5,000 worth of loading dies and other equipment were rescued and put in the large adobe homestead. It was not damaged. I lost a $1,000 pumping outfit and the mile-long road into the place looks like a goat path in the Alps. However, we are open for business already (Jan. 8th), and getting some. Already rebuilding the shooting house—this time with concrete and aluminum."

Rudolf Kamila who made the very high 100 shot score at 100 yards on Bob Hutton's Rifle Ranch range near Santa Monica, Calif.

LETTERS

Dear Phil:

Referring to the strength of silver brazing, and particularly to the letter from Mr. Paul Dodge questioning some of the claims as to said strength, I must disagree with Mr. Dodge and support Mr. de Haas in his original statement.

For twenty years I was actively engaged in preparing advertising for Handy & Harman, the country's largest producers of refined gold and silver, as well as alloys used in silver brazing. Their claim always was that a properly made silver brazed joint was stronger than the parent metal, and they proved the point so many times in tests which I witnessed, that it cannot be refuted.

Of course much depends on the method of making the joint. If it is a butt joint, I am not sure how much it will stand, but I believe as much as the surrounding metal. If it is a lap joint, the metal will break somewhere else before the joint lets go. I have seen two pieces of bar stock one-half by one inch in section, lap brazed with a half inch lap, then put in a big vise and bent into U-shape with heavy blows, right where the joint was, and still it held. That steel could have been bent back and forth until it fractured from fatigue, but the joint would not give.

It may be that some silver brazing alloys hold better than others. I know there are alloys in different temperature ranges, probably with different characteristics and degrees of durability. In any case, what the questioned statement means is simply that after a piece has been properly silver brazed, if it breaks it will break at some other point than the brazed joint.

Yours,
William Peterson
New Canaan, Conn.

Dear Phil:

I have just read your article "Help The Beginner" on page 10 of December 1958 "Precision Shooting," and felt constrained to write you a few random notes which you may or may not see fit to use in your excellent publication.

Let me say first of all that I am no world beater in the shooting field. I shoot under an "Expert" classification for outdoor smallbore rifle, and hope to make Master class someday if we ever get reasonable weather conditions at our Canadian National Matches in Ottawa. I did manage to make the 1958 Canadian Dewar Team.

I also own and enjoy shooting a Walther .22 Free Rifle, and am currently struggling to improve my average indoor standing scores from the high eighties.

In addition to the above I own a couple of Varmint Rifles; a BSA "Hunter" .222 Rem. and a Model 70 .243 Featherweight. I have owned the for-

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PRECISION BULLET CASTING
(Second of a Series)
By Kent Bellah

Mould are probably the most abused piece of handloading equipment, and when one is ruined it has no value whatever for making precision bullets. Lyman advises against lapping moulds. A perfect one doesn't need it. The blocks will close up tight, bullets will drop fairly easy and show a very faint line where the blocks come together. If you have to give the handles more than a light tap occasionally to eject the castings, or if bullets stick in one block most of the time, a tiny burr may be the cause. Careful lapping will generally cause perfect bullets to drop almost as soon as the handles are opened.

One writer rceommended auto valve grinding compound, generally 100 to 280 grit, which is entirely too coarse. I've had excellent results with Grade 4-A, 600 grit, made by Clover Mfg. Co., Norwalk, Conn. If not available locally, a 4 ounce container can be ordered direct. This is enough to last almost forever, but is handy to have around for other jobs.

A lap is made by casting a shank in the cavity, a nail with the head cut off being suitable. Dip the cool blocks in water, lightly dab the wet lap with compound, replace in the blocks, and turn it a few times before the blocks are tightly closed. Then chuck the shaft in a hand drill, close the blocks firmly, but not under heavy pressure, and revolve the lap 6 or 8 turns, at slow speed. Remember you are not cutting the cavity larger, but are merely trying to remove burrs without damage to the grooves, bearing surface or base. Wash the blocks carefully in carbon tet, or if necessary use gasoline, using a soft, hair brush. A dime store water-color brush is dandy. Examine the blocks with a 2X or 3X glass, and if no burrs are visible your job is done. Otherwise, repeat the lapping operation.

If only one lapping was necessary, you'll probably find the blocks do not require breaking in. Most new moulds made today do not require breaking in, but cast good bullets as soon as they are brought to correct operating temperature. A few years ago you often had to cast a hundred, sometimes a thousand pills, to break in a mould. If you had to lap more than once, and cut through the heat finish of the cavities, you can save breaking in time by setting your furnace at max heat, with only 2 or 3 pounds of scrap metal. Return castings to the pot until perfect bullets drop out every time. The blocks heat up faster if you do not drop castings faster than about three times per minute.

Blocks with surface rust in the cavities sometimes make good bullets. It isn't as serious as you may think. Unless rust has pitted the metal, it can generally be lapped out. Even light pits may be filled with rust, so that bullets are good and drop freely. Minor tool marks, hardly visible to the naked eye, are not serious defects. By that, I mean that a highly polished surface is not necessary, but I've seen moulds cut with a dull cherry, showing excessive tool marks. Blocks badly marked may, in theory, throw bullets that are okay, but chances are they will be out of round or out of balance. Never lap such a mould, but return it unused. The most common fault, that can develop in a high quality mould, or even be present in a new one, is a burred cavity.

If examination shows a burr under a 3X glass, even though bullets drop fairly well, it can be removed, and the cavity slicked up by lightly lapping with White Rouge, a buffing wheel compound. Crush a small chunk and make a thin paste by adding a drop or two of water. Use it the same as the Clover compound. This is also a handy polishing compound around the bench for utility use. It removes light rust or carbon formation in the blocks. Carbon forms from casting with oiled blocks. I prefer carbon tet for cleaning blocks, rather than gasoline.

In humid climates mould cavities require good rust protection, and they should be checked every 3 or 4 months. Sheath gave me good results for several years, but I prefer Anderol Gun Oil now. Applied with a small water-color brush, it gives better protection than any product I've used. I've just examined some blocks that were lightly oiled about 18 months ago, and they are in perfect condition, with no further lube needed. Blocks should never be oiled when they are hot. It can cause no end of casting trouble.

While minor tool marks in a mould are not serious, they are in your sizer die. A perfect sizer die, the proper diameter for your mould, puts a polished chrome plated look on the bearing surface of bullets, which removes all trace of tool marks. When bullets are sized in perfect alignment, which requires a very fine sizer indeed, accuracy will be improved and leading is greatly reduced or eliminated. Even with a perfect sizer, perfect top punch and perfect dies, a careless operator can sometimes cock a bullet in feeding. Inspection will detect the fault when bullets are boxed or loaded.

For many years I considered single cavity blocks necessary for uniform bullets, but the multi-cavity Hensley & Gibbs moulds have proved to give no more variation than one-hole numbers. They are wonderful, precision moulds, unequalled anywhere. The firm caters to custom jobs for custom loaders, police, clubs and competitive shooters, with 4-hole and larger moulds for handgun bullets. I'm sorry they discontinued the single and double cavity moulds, but as they say, the dedicated handgunners sooner or later go to the multi-cavity jobs, the 4-hole being most popular. This allows the firm to stay fairly well caught up with orders. For many years one had to wait for months to obtain a H & G mould. Competitive shooters and accuracy fans placed a higher value on them than on guns in their tuned-up battery.

If you order direct from Hensley & Gibbs, 2692 E Street, San Diego 2, Calif., specify the bullet number, the make and diameter of your sizer die, and the alloy you'll use most. Your mould will throw perfect bullets that are a perfect fit in your dies, with very little metal removed or displaced in sizing. In other words, a custom mould.

H & G moulds for the Harvey Prot-X-bore S. F. M. (Shoot From Mould) bullets, and the Jugular core moulds, are available direct from Lakeville Arms, Lakeville, Connecticut. As these are for pure, unalloyed lead, for bullets to be shot as cast, without sizing or lubrication, the moulds are fully equal to custom jobs for alloy bullets; I believe they are held to even closer dimensions.

Some of us powder-burned old handgunners get some wild, wild ideas for bullets, and sometimes they work. James Gibbs tells me they always enjoyed doing specification work. I don't know how many of these hog-wild jobs they have created, but it must have been many the past quarter century or so, and their workmanship is superb. They never have made a bid for volume sales and have kept plenty busy from word of mouth advertising.

Moulds are not delicate, and a good one will last a lifetime, but I'll wager more than half the owners have one or more that is imperfect because of abuse. Some casters slam the blocks closed like they were slamming a pasture gate, wham the sprue cutter at an angle or bat it with a steel tool. Blocks heated in a fire may warp a bit and be ruined forever. Moulds dropped on a concrete floor may have the blocks sprung and ruined beyond repair. The alignment pins should be adjusted as necessary to compensate for wear, and they should be checked frequently for burrs, that can be removed with a fine cut file or stone, working under a magnifying glass.

A heavy, machined (not stamped) sprue cutter is best. It should be perfectly flat, with tension adjusted so it rests on the blocks and will open and close freely under its own weight. Many people think a tight cutter makes more uniform bullets. It does not, and it should never bind in the least. If slightly sprung, which you can detect by viewing against a strong light, it should be replaced, not repaired. Cutters are ruined when struck at an angle or batted with steel tools. Blocks slammed closed soon wear an egg-shaped hole for the dowel pins, leaving the blocks out of alignment. Some careful workmen can install oversize pins, but there is a pretty good chance the blocks have been sprung from such abuse, especially the larger blocks.

Some new moulds are imperfect. I've seen more than one with a cavity so much out of line bullets placed base down on a flat surface would point in all directions except straight up. Most common defect in new and used moulds is a burred cavity, I suppose. Many are cut so much oversize for the particular alloy and sizing diameter desired that real precision bullets are impossible to produce. The best bullets are cast very close to the diameter they will be sized. Off the shelf moulds are probably cut large on the theory that a few thousandths oversize makes them "universal" for various sizer dies, and the fact that some shooters still hold to the idea of shooting pills a few thousandths larger than groove diameter. Of course an oversize cherry can be sharpened more times than one of the correct diameter, which reduces production costs.

I do not go along with the theory that cast bullets must be a few thousandths larger in diameter than groove dimensions, any more than jacketed pills should be much larger. It is true that naked lead bullets at low velocity can be a bit over groove diameter, and they do shoot. Those who claim better accuracy with, say, a .311″ bullet in a .308 (actual dimensions) barrel, may have sized bullets that were cast say .315″ to .308″. In this case the bullets were probably sized so much that some accuracy

was lost, and the .311 diameter shot better. Bullet diameter is a lengthy, inexact subject. I've seen fine groups made with pills considerably larger and smaller than groove diameter, and I don't know why some guns seem to shoot better with over or undersize bullets, when they are given careful tests. Long ago I had a 10" custom barrel .452 on a .45 Colt. It never did shoot with .452 cast bullets, but really wadded up with .454 pills. I've shot many superb groups with .357 Smith & Wesson, Ruger and Colt guns using Harvey's .355 diameter bullets. The guns certainly varied in dimensions of the throat, groove and bore. I've seen guns that seemed to be temperamental in the bullet diameters they would digest with accuracy, and some that were not.

Some casters let the inside of mould blocks get lead splattered so they do not fully close. Lead smears and splatter can be cut from the block faces with a sharp razor blade. Do not scrape, but push the blade carefully so it cuts clean without scratching. All the bullets cast with the blocks partly open will be out of round and oversize, and you can imagine how they will perform.

Cutting the sprue before the alloy has hardened will cause wads of the semi-liquid metal to be pulled from the bullet base. That is why it is necessary to wait a couple of seconds to cut the sprue after it hardens on the surface. Set the furnace thermostat to the lowest heat that gives fully filled out bullets with sharp, clean bases and edges with your casting speed. Remelt bullets noticed with rounded bases while you are casting, and inspect for other defects as they are sized. It's best to discard the first dozen or so castings with cold blocks. This means the first 48 bullets with a 4-hole mould. This size and larger holds heat well, so one man can use two moulds to advantage. Custom casters often handle three or four, filling all before starting to empty them, and they produce bullets at a rate of more than 1,000 per hour.

I have a number of shooting companion friends who are welcome to play with any of my favorite guns and equipment at any time. They know something about it, generally take as good or better care of it than I do, and I'm welcome to use their stuff. Except for these fellows, I've had bad luck trying to be a good guy by letting acquaintances borrow such items. Fine guns have come back in a few days looking like clunkers. I'll never know how they can be abused so much in so little time. Most of the unfortunate experience has been with people who spend their hobby money for something besides shooting, and they borrow from people who are more a sucker than a good guy. I've found that with few exceptions it's better to give these people a few hundred bullets rather than allow them to take a favorite mould home over the week end. If you can't say No, then you better purchase duplicate moulds, with one to use and one to loan.

TO HOLDERS OF BONDS OF KARNER RANGE ASSOCIATION, INC.
Take notice that all bonds of KARNER RANGE ASSOCIATION, INC. have matured and will be paid in full with interest according to their coupons if said bonds, or satisfactory proof of their loss or destruction, are presented to John R. Spain, 26 Homestead Avenue, Albany, New York. paid adv.

REMODELING THE IDEAL SIZER AND LUBRICATOR

By Frank de Haas

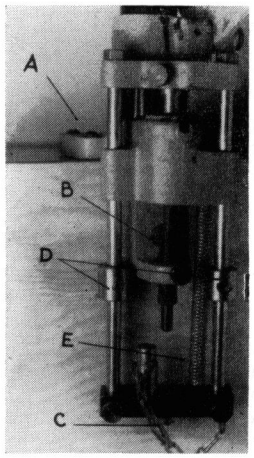
Several main faults in the design and construction of the Ideal #45 sizer and lubricator become apparent to the users in a short time. They are: 1) inability to attach the tool to the bench properly and securely; 2) no provisions made so that the inside lower punch can be stopped in its upward travel so that the new bullet may be seated and started accurately in the die; 3) some means to keep the handle screw from always working loose; and 4) an easier method provided to quickly remove the sizing die. These are all small things, but these little things become quite important when sizing a large batch of bullets, and the time it takes to remodel this tool so that it works without a hitch will be saved in the first big bunch of bullets you run through it.

The first complaint is the very poor way this tool is supposed to be attached to the bench. There are four small holes in the base plate (A) and these should be drilled out to accept a much larger wood screw or bolt and this alone would help in tying down the tool much more securely. Since there is just about as much upward pressure required on the handle as there is downward pressure, provisions should be made to hold the tool down against the upward thrust. This is accomplished by drilling a hole (and countersinking it) in the lower base casting to accept a large flat headed wood screw or bolt (B). With this extra screw in place the tool will be anchored down to stay.

Number 2 complaint has to do with the ease and speed of operation as well as getting more accurately sized bullets. The original tool leaves the inside (lower) die punch level with the top of the sizing die at the end of the upward stroke of the operating handle and this leaves little provision to accurately and quickly position the next bullet in the die—or rather on top of the lower punch. By providing an adjustable stop some place on the tool the upward travel of the bottom punch can be stopped just short of the top of the sizing die so that the new bullet may be seated partly into the die mouth by slight finger pressure, assuring that the base of the bullet is correctly centered. The top punch will then correctly center the nose of the bullet, provided the correct top punch is used that matches with the nose of the bullet. There are several ways to provide a stop. Most often the bottom plate is drilled and tapped to accept a stud bolt and this used as a stop (C). However, this arrangement is not nearly so good as the stop collars placed on the two guide rods, shown in (D). These collars can be purchased or easily made and the set screws should be ¼ X 20 Allen type screws so that they may be set securely, because when once set they are in correct position for most all dies.

The third little trouble with this tool is that the handle stud screw always wants to work loose regardless of how tight you may put it. To remedy this, drill and tap a small hole in the top casting (E) to accept a small Allen set screw directly on the threads of the handle bolt. A simple little thing and it sure stops that bolt from coming loose.

Lastly, to easily and quickly remove the sizing die, provide the tool with a plug, call it a knock-out pin if you wish. It should be about an inch long and a



half inch in diameter, and should be attached to the tool with a short piece of chain so that it will be handy when needed. To remove the die, first loosen the set screw that holds the die in place (very important but sometimes forgotten), then place the knock out plug on the bottom plate, raise the handle and apply some upward pressure, and then gently tap the bottom plate with a mallet. Thus the die can be quickly un-seated and removed.

For ease of operation and to keep the tool from wearing out unduly, keep the two guide rods and the outside of the lub cylinder well oiled and clean.

AN INDIVIDUAL RESPONSIBILITY

Public funds allotted to the National Board for the Promotion of Civilian Marksmanship are one small item in our national defense budget. The funds are appropriated to assist in training civilians in one phase of national defense—small-arms marksmanship. Those funds **are not** an appropriation for a recreational program.

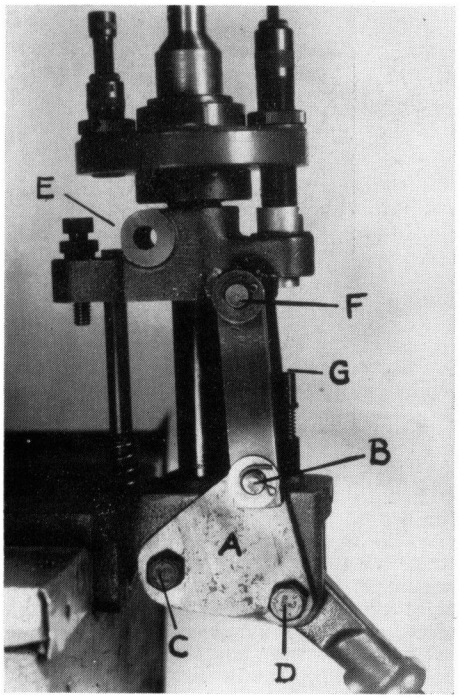
Public funds appropriated to pay travel expense for civilian and pistol teams to the National Matches are intended to make it possible for representative civilians from each state to attend the small arms firing schools at the National Matches for the purpose of learning the currently best methods of teaching rifle marksmanship to other citizens in the respective states. Firing the National Matches is a continuation of the teaching—the "learning by doing" stage.

Attendance at Small Arms Firing Schools is an obligation of members of State civilian rifle and pistol teams. There is also an implied obligation for those civilian team members to pass along what they learn to other civilians when they return home.

Winning a place on a State Civilian Rifle or Pistol Team is not just winning an expense paid pleasure trip to the National Matches. It is a competitive selection to permit one to prepare himself for further and better service to his country.

The most fertile ground for civilian team members fulfilling their obligations is with our junior citizens-to-be, either as instructors in junior rifle clubs or in the Hunter Training Schools sponsored by the National Rifle Association.

PHT



REMODELING THE OLD MODEL TRULINE JR. PRESS

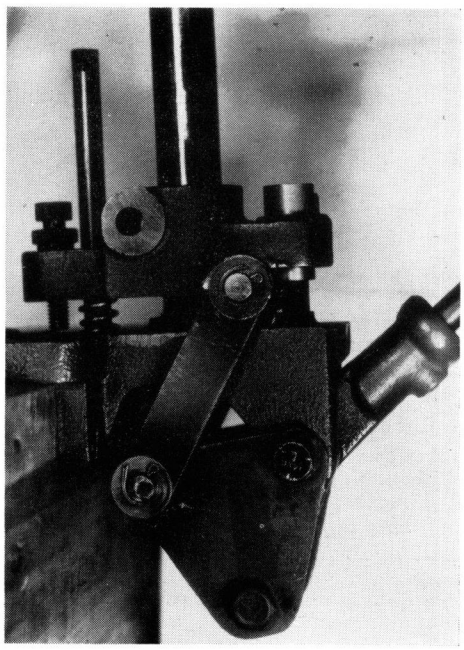
By Frank de Haas

The Lyman Truline Jr. reloading press has always been a wonderful little reloading tool, especially for pistol and revolver cartridges, but the old model had several faults which most handloaders overlooked or put up with. The Lyman Company came out with a new version of this old tool about a year ago and this tool does not have the main faults of the old one. The principal fault of the old tool was the very poor linkage system and mostly on this account it was also very hard to keep it anchored to the loading bench.

While it might be possible to obtain the required parts to change the old model into the newer one from Lyman, the cost would perhaps be as much as a new tool. The illustrations show how I remodeled and changed my old Truline Jr. to work as well as the new model and now handgun cartridges can be full length re sized with ease—and without tearing the tool from the bench. Although the new toggle system gives plenty of additional power, nothing but straight sided pistol cases should be re-sized as the frame of the tool itself is not strong enough for any heavier work.

Materials required are two triangular shaped steel plates (A on the illustration) 3/16 or ⅛ inch thick and the sides 3 inche.s Using the holes in the handle casting as a guide, ⅜ inch holes are drilled in each corner of the plates, equal-distance apart. Each plate must have one ⅜ inch pin or bolt (B) to connect the toggle arm, and I made these from tool steel and silvered their thin heads to the plate. Thin headed bolts could also be used. The plates are then attached to the frame and handle with two ⅜" X 2½" bolts (C and D), C being drawn up tight.

Now the pin on the shell holder casting must be relocated to prevent the casting from binding on the tool post. I made a new pin (F) from ½ inch stock and turned the ends down to ⅜ inch and then brazed this pin under the shell holder casting as shown in the picture. A slight amount of filing was required on the casting to correctly position the pin.



Remodeled Truline Jr. press with handle in raised position.

Before brazing the pin in place, the entire toggle system was assembled to assure proper alignment of the parts. Then the two arms (G) were shortened to 3½ inches and a hole drilled about 2⅞ inches centers. Small holes were also drilled in the ends of the pins (B and F) for small cotter keys to hold the arms in place. (E) was the position of the old pin.

The weak point of the remodeled tool is the bottom casting and the new toggle system is now strong enough to break it, so take it easy—use it for pistol cartridges only. Using the new Lyman combination dies is now possible in my press and the first night I used it more than 500 38 Special cases were fully re-sized and loaded without a single hitch.

THE TOURNAMENT CIRCUIT

NEW HAMPSHIRE HANDGUN

Walter Kistler from Worcester, Mass., fired an aggregate 858 to top the field of 95 shooters at the Pioneer Sportsmen Inc. second annual mid-winter pistol tournament at Dunbarton, N. H., January 10-11. He won the Camp Perry match with a 297 (not in agg.), the slow fire with 187 and Time fire with 196.

Albin Johnson of Walpole, Mass. was aggregate runner-up with 850, and he won the three-stage gallery course event with a 288. John Hanson, Newton, N. H. was third in aggregate and and he was match runner-up in the Camp Perry match (294), the slow fire match high New Hampshire resident with 847, (182), the rapid fire match (194). Roland Noyes, Marblehead, Mass. won the rapid fire match with 194.

Lt. Nancy Ellefrit of Portsmouth Naval Base was high lady and high sharpshooter with 821. Thurlow Merrill was high marksman with 789 and Edward Stuart, Portsmouth, N. H. was high unclassified with 776.

Fort Devens, Mass., won the team match with 1116.

VERMONT GALLERY RIFLE

Vilho Ahola from Scituate, Mass. was the aggregate winner at the second annual gallery rifle tournament conducted by the Brattleboro Rifle Club on January 11th, posting a 587 X 600 score to beat Richard Betz of Exeter, N. H. by three points. Edward Lane of Glouceste, Mass. was third with 581. Twenty seven fired the matches on the club's range in the basement of the Municipal Building.

Ora Smith, Keene, N. H., won the 10 prone, 10 sitting match with 200-17 to Ahola's 200-15. Jo Ann Robinson was third with 199-19.

Richard Betz won the prone-kneeling match with 199-14, expert Carmen Bonney of Scituate, Mass. was runner-up with 198-12, while Ahola, Lane and Esther Smith, Keene, N. H., ranked in that order with 197-14 scores.

Ahola's 190-2 to win the 20 shots offhand match clinched the aggregate for him. Lane fired a 186-7 offhand, Betz a 186-6, and Hope Cromby of Beverly, Mass. a 186-4.

Esther Smith, 576-28, and Hope Crombie, 576-25, were fourth and fifth in the aggregate. Charles Langmaid, Brattleboro, was high expert with 571-23, James Preston, Brookline, Vt., high sharpshooter with 558, and E. E. Davis, Springfield, Vt., high marksman with 527.

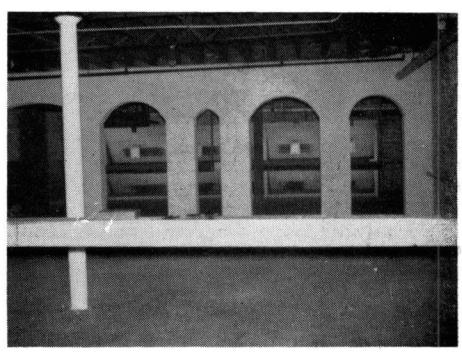
CALIFORNIA HIGH-POWER RIFLE

Firing in the first Valley Shooting League .30 cal. match for 1959 on the Fresno, Calif. range, Leonard Butler and Henry Wright, both from Fresno, both fired 245-25V scores, Butler taking the decision with his better score at 300 yards.

John Hartness, Selma, 244-23V; Bert Dickinson, Bakersfield, 243-26V; and Leroy Goodnight, Avenal, 243-17V, made up the top five.

Wright won the offhand match with 49-2 and the sitting rapid fire with 50-9. John Weldon took the 300 yard prone slow fire with 50-9V; Richard Shirinian the 300 yard sitting slow fire with 50-7V; and John Hartness the prone rapid fire with 50-7V.

Ideal shooting weather conditions set the stage for high scoring.



The five point, 50 feet gallery range of the Brattleboro Rifle Club, located in the basement of the Municipal Building at Brattleboro, Vermont. The thick masonry arches part way down the range support the floors above. There is a room for match statistical work behind the range proper, and back of that a very spacious club room. The Brattleboro Rifle Club is one of the very oldest rifle clubs in the United States.

Dear Phil:

As far as I can see from looking at weather reports, almost every section of the country has reason to complain, and since we can't do anything about the weather, we might just as well do the things that we can do. I long ago learned that it was a waste of time, ammunition and good barrel life to try to test in anything but the most favorable weather conditions. When they are other than that, the groups are bound to be so large that they give us false readings and keep our minds and dispositions in a state of turmoil.

The bad weather gives us a chance to check our stocks and other conditions that keep our rifles from being real hot. I thoroughly concur with what you said about many rifles not being quite good enough to do the job but I am equally of as firm an opinion that many rifles are, but are waiting the little touch that will bring them to the winning side. I have long thought that barrels aren't half as bad as their owners suspect them to be and when it is the barrel that is causing the trouble, the owner has probably allowed metal or powder fouling to build up and gradually spoil the accuracy. It is a good time to see that triggers are properly lubricated and there are many other areas, too, to check for frictionless conditions. You can never eliminate the friction entirely but a little care will reduce it in many places.

This, too, is a good time for going over your gadgets and accessories and seeing if improvement can be made. I know as I go to the matches throughout the year, I notice lots of little tricks that the fellows are using, and helpful modifications that they have made to their equipment. We make a mental note that we haven't time enough to do it between matches in the summer season but fail to improve our own equipment until next year's matches are upon us again.

Talking about new gadgets, I thought I was delivering a pretty nice straight line push type bullet seater to some of the boys. I knew with the labor I was putting into it, I was working for nearly nothing, and now that I have seen the little job that Charlie Pool of 3945 Sixth Avenue, Los Angeles is delivering to the boys, I am going completely out of business on that item. Charlie, as you know, does fine work as many of us can testify from the work on the little hand loading tools that he makes. Even the pistol shooters, muzzle loaders and shot gun shooters lean over our shoulder and almost drool about them as they see us use them in the matches. Now he has come out with this new seater, with micrometer adjustments for depth, and for only one sawbuck! I predict that he will be swamped with orders and you and others had better get theirs in pretty quick. Nobody is going to put Charlie out of business by cutting under that price, and how he can do it is more than I can see. He is one of my best friends and most interesting correspondents, and good business couldn't go to a nicer guy.

I have been communing with "Crawf" Hollidge lately and I think that either he or I ought to break forth with a few little tips that should make better bullets for the boys. Since "Crawf" wrote that article on "Hot Bullets Usually" way back in the early days of the Biehler dies, he has had a chance to convince himself that some of the methods that he spoke of then were subject to improvement. I notice that you followed pretty much the general orthodox Biehler system which will get the greenhorns by all right but the pitfalls occur more frequently than you suspect at this early stage.

The problems multiply as you go in to different weights of bullets, slight difference of diameter in bullets of the same general character, and with variations of jacket length and jacket manufacturer. Gremlins even sneak up behind you when you change from one jacket lot to another, from the same manufacturer and presumably made under the same specifications. Fortunately, the variations in these jackets are not sufficiently great to cause you to tear out your hair by the fistful and order new tools from Biehler (with the necessary long long delay) but they do call for a little careful thinking on your part and you will have to improvise more than once to get around your problem. Troubles can best be avoided by being a big shot and after you have become familiar with your tools, making bullets in comparatively large quantities. None of this 100 of a kind business but more nearly 1000 at a time. You are only kidding yourself if you think you can test a bullet for its performance with a few hundred rounds of fire.

Since a little bit ago, we talked of pitfalls, let's now discuss some of the tools that "Crawf" feels are musts. The first on the list is a good press and for his money nothing equals the Model B press made by good Fred Huntington who initially did so much for the home bullet maker, and who has so zealously proclaimed that nothing takes the place of quality. There are other good presses to be sure, but the Type B is easy to disassemble and clean, permits a down stroke and a sitdown operation, and its adequate power is entirely sufficient for 30 caliber bullets in B&A dies. A quarter of a million strokes won't wear it out if you keep it lubricated, and it is easy to view the work as you use it and also easy to make an automatic catching device that will double the speed of each one of the bullet making processes that go through the presses.

If you are requriing a lot of power in any of the operations, your adjustment of the dies has not properly been accomplished, and you had better look things over and find the reason for the extra power required. As a matter of fact, the long handle furnished is not required for power, but it does greatly contribute to the sense of feel which is one of the most important requisites to making a uniform lot of bullets. As that sense of feel is developed, you can sense all sorts of variations that will later cause you rejects, or if not detected, fliers in your shooting, and it is much better to withdraw them from your lot as you feel them through your bullet making process. The standard handle can be improved considerably by making a mushroomed shape knob or plug to fit in to the open end of the tubing. This adds an inch or two of length but is much easier on the hands, if made of plastic or some good smooth material. Speed can be attained by making an auxiliary handle about 8" long which is used in lieu of the regular handle, with considerable success. An old rifle barrel with the chamber bored out to fit over the stud on the lever and tapped for an old gear shift knob has worked fine on thousands of occasions. A little bit more power is required but after the sense of feel has been developed, the increase in speed is well worth while. In a long stretch of operation, muscle relief can be obtained by alternating between the short handle and the long handle because apparently two different sets of muscles are used.

The automatic catcher shoots the cores, core seated jackets or swaged bullets directly in to a tin lard pail or suitable container, and since it is rubber elastic powered, it can easily be pushed out of the way for hand room or adjustment of the dies.

There is another cheap and handy little gadget made from a section of a 6 or 8 ounce squeeze bottle. Cut it off at the neck and below the shoulder so that it makes a little shroud and catcher for the extruded lead that comes from your core forming die. It is elastic enough to grip tightly on the die just below the bleedholes and seal off at the other end where it comes in contact with the press

(Continued on Page Eight)

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(Continued from Page Seven)

frame. It will probably not have to be emptied if your quantity of extruded lead is adjusted correctly to approximately ¼" per hole for at least a couple of hundred cores.

Since we are talking of cores, and that is one of the first steps after you have measured your jackets or procured a lot that you have great confidence in, and have cut your cores so that they weigh approximately 2 grains more than the desired weight of your finished core and jacket combination, let's be sure that we make the cores accurately.

First, you will need good pure lead in straight lengths if you can get it, and if you are going to avoid endless troubles with your bleed holes, you certainly do not want any scale, carbon or corrosion, grit, gaul marks or bruises because make no mistake about it, the best core cutter can't cut uniform length and weight cores if the lead wire is imperfect, and if those cores aren't cut uniformly, the variations in weight will show up in the first process of core forming. It is believed that Hoppe's is a superior liquid to oil for lubricating the cores and when it is done on the full length of the lead wire, the mission has been accomplished, even through the second stage of core forming. The thin Hoppe's keeps the cutter working smooth, facilitates their dropping easy from the length-gauge disk and does not build up badly on bruises in the wire as well as being thin enough to assure a good tight forming core to full die size. Hoppe's was designed for bore cleaning back in the day of lead bullet predominance and the same action is identical with the miniature bore in the bleed hole. I don't believe I have had to drill out bleed holes once in the last couple of years. It is a ticklish job if you do have to do it, and you must be very careful. Biehler generally furnishes a little piece of stiff wire with a wooden dowel handle but if you have lost it, a replacement can be made by drawing some of the hardness out of a needle and sharpening it to a cutting end, but don't forget to draw the hardness out because a broken needle in one of those bleed holes will put you out of business for a long time, and perhaps ruin your die. Possibly a few drops of mercury will get you out of your trouble but if things don't go easy, you had better send it back to Biehler.

Your core cutter will cut one end of the little slug more squarely than the other and believe it or not, you'll make better cores if you enter those slugs in to the die with the square end up. The cupped plunger will be better filled that way and you will notice fewer flaws on that end of your formed core.

I once wrote that it was better to process your cores a second time by reversing ends but I am fully convinced that I was wrong and through many thousands of tests, I have proved to myself conclusively that the most uniform cores are processed by putting them through a second operation with the rounded and uppermost in the die. If the Hoppe system is used as a lubricant originally, no second application is required as the cores are put through the second time.

The next operation is de-greasing or in my case, it is the chore of removing the last traces of Hoppe's #9 from the finished core. There again I differ with those who favor using an agent that promotes rapid and rather deep oxidation. I gave it a fair trial and careful test and came to the conclusion that it made less uniform bullets and that the too tight gripping of the core and inner jacket surfaces is a disadvantage. Ray Biehler told me in the early stages that there is evidence that such cores made a longer bullet. This, perhaps, is true because the gripping contact of the lead as the bullet is swaged makes the copper flow lengthwise. If that is so, and I have no doubt of it, then the same tight gripping action makes the copper flow the opposite direction, and there is where the trouble occurs. With the most careful of jacket measurements for uniform wall thickness, the walls must be thinner or weaker at one point or another and when the copper does flow the opposite direction, it makes the thinner section thinner and another slight tendency for the bullet to be out of balance. The tightly compressed lead at the stage of forming exerts its effect as it stabilizes and expands, by further pressing on the thin area and it seemed to me that this accounted for a very, very slightly lopsided shape of the bullet. This mated surface between the core and the jacket varies as the core is seated, when the bullet is swaged and when the bullet goes down the barrel. I use a good cleaner or carbon tetra chloride on my cores just prior to inserting them in the jackets which have also been cleaned by a suitable solution.

Panels of lucite, drilled with holes slightly larger than the jackets and about 5/16" deep, 400 to the panel, make good blocks in which to insert the jackets, then drop in the cores and press them tightly into the jacket until they bottom. This panel system is an easy method of keeping track of the number of units being processed and, of course, wood can as readily be used as lucite.

In the last issue I noted several comments on lubricating the bullets prior to swaging them. I found that in lubricating them in quantity, a round flat tin box such as cookies or candy often come in, works out very well. Two disks of masonite, cut slightly smaller than the inside of the tin box, having applied to them a piece of not too rough worsted fabric (from the back of an old suit coat or pair of trousers) by either sewing or cementing the fabric to the disks, make a good base for the lanolin or other lubricant which is liberally impregnated in the fabric, and warmed so that the surface is evenly coated. One disk is placed smooth surface up on the bottom of the tin several hundred units are dumped onto the disk, the other disk placed smooth side down against them and the cover put on, and the box slightly tilted is rolled or shaken to assure uniform lubrication.

The place where I differ with most of the writers is the stage at which the lubricant should be applied. I definitely feel that it should be applied at the time the cores are seated. By my method of seating the cores by hand first, via the drilled blocks, I assure that no lubricant can get between the clean surfaces of the jackets and cores, and thus when the jackets are lubricated by the disk box method, I am ready to insert them at the rate of 1500 an hour into my core seating die.

Like other pieces of B&A equipment, the core seating die is made to very close tolerances and very smoothly finished, and it should be protected from wear. The lubricant helps but since there is such a wide variation between the jacket diameter (surprisingly .222) and the die diameter (.224), there is adequate room for even a thick application of lubricant to spread around the walls of the jacket and if there is too much lubricant, it easily forces out past the mouth of the jacket because the core seating pin is only the diameter of the inner walls of th jacket. They are then sufficiently lubricated to process through the point swaging die, from which they emerge without those deep ceases that we all try to avoid.

Here, Phil, is a point where some of the fellows are going to holler and say that their jackets stick to the core seating punch instead of staying in the die, and also right here, Phil, is where you and your friends had better plan to make an investment in a matched set of core seating punches which vary slightly in diameter. You are bound to need them if you are going to make variable weight bullets in your dies, and the proper punch is the only method that will assure your seated jackets remaining firmly in the die, and sticking to the punch. If they are sticking to the punch, you probably have not gotten a fully expanded jacket in the first place. The proper punch is the one that allows no lead to bleed by, does not bite in to the inner walls of the jacket, and expands the jacket sufficiently so a mild pressure on the ejection frames clears the die and so that the seated jacket will pop out into your automatic catcher, if you have one. Please note also that another tool that the bullet maker needs is the ejection frame assembly, complete with a couple of spreader springs on the side rods.

How do you strip off those jackets that cling so tightly to the core seating punch when things aren't right, or you have somehow tried to seat a core and found yourself with an empty jacket? You can make yourself an elaborate stripper but when things are going right, the occasions for stripping are few and far between. I use a little pair of diagonal cutters, and apply mild pressure to the hardened punch, and with a little block of wood as a fulcrum, ease the jacket off quicker than it takes to type one of these words, and with no injury to the jacket, punch or diagonals.

There is no stage so simple and rapid as that of actually forming the bullets. The seated jackets are already nicely lubricated and they are fed in to the die so rapidly that the main problem is to keep your fingers out of the way, but before you start feeding them in, make sure that the die has been properly adjusted. It should make the longest possible bullet, yet have the ejection pin bearing fully across the point diameter. The bullet should be well formed, with the base corner not too sharp and without so much pressure as most people suppose. The action of the ejection frame should easily pop the bullet out, but be sure and check that the side pins on your ejection frame are adjusted so that they pull down evenly on both sides of the cross bar. Keep the ejection frame and the die plunger lubricated where necessary.

There is considerable sense of feel in making bullets, in all of the stages but particularly so in the point forming process. Several years ago, I had a lot of jackets that were quite hard and I was having a great deal of trouble with them

wrapping at the point. This was disconcerting and costly but I found that in experimenting with my stroke timing, I could cut the percentage of wraps in half by sort of easing the jacket up into the ogive, hesitating an instant, and slowly finishing the stroke. I deduced that if it cut the loss on wraps, such a stroke must also make a bullet with more uniform creases. I proved this point to my satisfaction, and since have used such a stroke. It is hard for me to explain it in writing but I think if you are a bullet maker, you have either already discovered it, or can quickly acquire it.

Creases vary from lot to lot in jackets, and they all look like mountain ridges on the inside. The expansion ring on the base of a bullet also varies from lot to lot of jackets, and is not, as most people seem to believe, due to wear in the die. I can make bullets with obvious expansion rings in a brand new set of dies. Some fellows don't like these expansion rings, but I believe that I prefer them on bullets and invariably choose them for my own shooting.

This brings up the question of how is a bullet properly measured. With certain jackets and core seating operations, a new .224 die can be made to turn out bullets with bases that are .2242. There have been many expressions that these expansion rings seal off the gases better and, if they amount to anything after the first inch of travel, that may be so. However, their main function is to permit the little wobble of the bullet in the case neck which I think is advantageous to accuracy. I also assure this freedom of movement by slightly taper reaming the inside of my necks so that there is very little pressure as the bullet is seated into the neck of the case but sufficient pressure to keep the bullet in place as the point of taper and the expansion ring of the bullet meet immediately prior to the point of proper seating depth.

I believe many folks size their necks too tightly, and holler loudly to the bullet maker for a bullet of a certain diameter. The maker, in his desire to please the customer, makes a jewel-like little bullet with a nice expansion ring and the customer promptly seats it in a tightly necked case, and scrapes off the ring, if not actually reducing the diameter of the bullet, at the point that is most critical. I experimented once by seating bullets in tight necks and then using an inertia puller to take them out and measure them. The expansion ring was nullified, and if you pull the bullets a week later, you will be able to measure a reduction in bullet diameter. Incidentally, very hard seated jackets will shrink very slightly in a period of several days. Of course bullets being used in rifles that are not having the round inserted in the chamber by hand must have tight gripping case necks.

I venture to guess, Phil, since writing your greenhorn article, you have had one or more bullets stick in your bullet die. No lubricant or too hard swaging may have caused this, but it is possible that you didn't goof at all and the jacket maker did, and you got a seated jacket in your die that was slightly shorter than normal. Naturally, the ejection pin didn't have a full bearing surface on the point and your pin slipped through in to the soft lead. You will only make matters worse by trying it again probably, but you will have a better chance of success if you make sure that the pin is pulled clear of the bullet point by lifting straight up on your ejection frame which you certainly should do before you attempt to remove the bullet. Sometimes, loosening up the lock nut and screwing the die a little deeper in the press will allow you to eject but that is bad business because it is very difficult to return your lock nut to exactly the same point and thus continue to make bullets exactly the same in dimension as you had been making previously. You had better use the old tried and true method of taking the die out of the press and using a wood screw to remove the bullet. I have used one wood screw for about 5 years so I don't think that is being too extravagant. It is about 3½" long, slim enough to be driven in to the die, to strike and cut through the base of the bullet. Turn the screw in deeper. The screw head is gripped in a vise and a plastic mallet used to drive the die away from the screw. The screw is of mild steel, probably won't hurt the die if it does touch it, but never once has it failed to extract the jammed in bullet on the end of the screw.

Since I have suggested that you spend your money for a couple of extra tools and that easily obtained screw, you might as well go overboard a little bit further and get what I consider to be a "must," for facilitating bullet making. That investment will be in a set of varied thickness shim washers which are used between your lock nut and press. These, you can obtain from Biehler or, for less money because they are not marked with thickness references, from your local machine tool supply source. There, they are sold as arbor spacers. They come in an envelope with about 20 different thicknesses but with those you will have to use your mikes to keep track of your shim thickness. For instance if you are making bullets of .690 jackets, you can put the proper sequence of shims under the lock nuts and immediately swage bullets from .705 jackets or from .735 jackets. Also, if you are set up for seating cores for a 50 grain Sierra jacket, you merely add shim washers to change your core seating die to any depth, thus making heavier bullets in constant length jackets. They are as simple as ABC for making double processed cores; for instance, if a bullet is to be made in 52 grain weight with a certain jacket, cut your cores 2 grains heavier, insert a .012 shim under your lock nut, process your cores, take out your shim and put your cores through again (24 or more hours later), and you've got them right on the button for 52 grains weight if you adjusted them that way to start with. In loading, the same shims are used in many operations. A full length sizing die quickly becomes a neck sizing die by inserting one or more shims of the proper thickness. Likewise, if you want to experiment with different seating depths, just use shims under your lock nut of your seating die, and remove them as you wish to go deeper, or just add them if you want to try a bullet whose ogive is of a little greater radius and you want to make sure that the bullet properly fits the throat of your rifle.

There will be some lubricant on your bullets as they come out of your die and you don't have to buy a tumbling machine to remove it. Just put a few hundred in a longitudinally folded old bath towel and slide them back and forth as you stretch it tight. Don't do it too roughly and although the bullets won't be highly polished, they will be sufficiently clean. Don't wash them with a cleaning liquid, it's bound to seep between the core and jacket wall.

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Don't pack them too many to a container. If you drop one, two or three feet to a cement floor, throw it away because it is ruined, and keep the dust away from them.

There are a lot of things that I could do to make my bullets cheaper but I don't propose to skip any of the steps that I now take or rush the production to such an extent that the core forming stroke wouldn't give time for the lead to pass out the bleed holes, or leave sufficient period between each operation for stress relief of the lead or copper. As I make each bullet, I feel that it is going between gun and target with my name on it, even if somebody is shooting it in Alaska. I give hundreds away because they do not come up to my demand, or in some instances, sell them in bulk for little more than the jacket costs.

The weighing stage is a good example because if every step described above is taken with the greatest of care, the bullets will indeed be very uniform, but you fellows are no different than I and since we have gone to the extreme extent described so far, let's play the game to the bitter end and individually weigh each bullet. You can be reasonably happy with 1/10th of a grain variation but 1/20th is better and it is just as easy to sort them.

Well, Phil, in a little less than three weeks, I will be Elmira bound to join, I hope, many of the clan in what always turns out to be a good time. There will be some ear bending, some hot air and perhapss ome hot tempers, but out of it all, good generally comes. It is certainly a long haul for me if I didn't believe that, and I hope there are others who will make the effort.

Cordially yours,

Ernest Stuhlreuter

PROMISED SOON: A discussion on the .250-3000 versus the .243 by widely known old-timer Allyn H. Tedmon.

National Bench Rest Shooters Association, Inc.

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Paul O. Gottschall (Vice Pres.)
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Seattle 99, Washington

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Individual annual dues $5.00 (includes magazine subscription for membership term). Associate member (wife or husband, son or daughter under 18 years of age, of member in good standing—no magazine) $2.50. Life membership (after January 1, 1959) $75.00. Annual club affiliation fee $10.00.

1958 NBRSA ANNUAL MEETING MINUTES

Minutes of the annual meetings of the officers and directors of the National Bench Rest Shooters Association, Inc. held on September 24, 25 and 26, 1958 at Skiatook, Oklahoma.

Officers and Directors present at meeting in John Zink Ranch clubhouse on September 24, 1958: Irven M. Mohnkern, President, Director Eastern Region; H. W. Barton, Vice President, Director Mid-Continent Region; Dr. Rod Janson, Director Northwest Region; Coleman B. Brown, Director Gulf Coast Region; Paul O. Gottschall, Deputy Director Eastern Region; P. H. Teachout, Secretary-Treasurer.

The meeting was called to order by President Mohnkern at 3:00 P. M.

President Mohnkern gave an oral report to the Directors and reviewed some of the business to be considered in the meetings. He reported on the dissension over "rests" in the Eastern Region. He reviewed the events leading up to the mail vote to increase individual annual membership dues to $5.00 on October 1, 1958.

Secretary Teachout suggested that annual associate member dues be increased to $2.50, or one half the full dues, to correspond with past practice and to bear a proportionate share of costs. On motion properly made, seconded and carried by voice vote, the annual associate member dues were set at $2.50, effective October 1, 1958.

President Mohnkern suggested that since cost of magazine subscription had increased, as well as all other costs, that the Life Membership fee be increased to $75.00. Rod Janson moved and H. W. Barton seconded that Life Membership fee be $75.00. Motion carried by unanimous voice vote.

Minutes of the 1957 annual directors' meetings were now read and accepted.

Teachout read the Treasurer's report. Janson moved the treasurer's report be accepted as read. Motion was seconded and carried by voice vote.

The President called for reports from the Regions. Mohnkern read the Eastern Region Treasurer's report and orally reported on activities in the Region. H. W. Barton reported for the Mid-Continent Region. Rod Janson reported that he did not have the Northwest Region financial report with him but would turn it in at a following meeting. He reported orally on activities in his Region and commented briefly on the Southwest Region (Mohnkern had reported that Rowland had resigned as Southwest Director and had turned the Region funds in to National headquarters for holding). Coleman Brown reported for Gulf Coast Region.

The matter of location for the 1960 National Shoot was brought up before the meeting. Since the 1960 Shoot should normally go to a Western Region, and since Gulf Coast and Mid-Continent Regions were the only ones prepared to conduct the shoot, President Mohnkern suggested that Barton and Brown confer on which Region should hold the shoot in 1960. They did so, following which, Coleman Brown moved that the 1960 National Championship Shoot be awarded to the Mid-Continent Region. H. W. Barton seconded and the motion was carried by unanimous voice vote.

President Mohnkern brought up the matter of frequent long delays in getting targets submitted as possible new record groups measured by Jack Brandt of Bausch & Lomb and suggested that since the method of measuring aggregate targets for judging as possible new records had proven so reliable, that targets submitted for judging for new group records be measured in the same manner, and that a Vice President be elected to serve as Chairman of a judging committee for all record targets for groups and aggregates. On motion properly made and seconded, H. W. Barton was elected Vice President in charge of record target judging in 1959.

Rod Janson moved that all targets to be considered and judged for new group and aggregate records be sent to the Vice President in charge of judging committee for measuring and judging by his committee. Gottschall seconded and the motion was carried by unanimous voice vote.

President Mohnkern recessed the meeting until September 25th.

September 25, 1958. The Directors' meeting was reconvened by President Mohnkern at 3:40 P. M. at the John Zink Ranch clubhouse. Present at the meeting were: Mohnkern, Gottschall, Barton, Janson, Brown, C. C. Hankins (proxy for North Central Region) and Teachout.

Rod Janson read the report for the Northwest Region.

President Mohnkern explained that Precision Shooting Inc. had made available $50.00 to partially cover expenses for Teachout to attend the shoot as a reporter and suggested that NBRSA pay balance of Teachout's expenses for service as secretary and as chief range officer at the Shoot. Rod Janson moved that P. H. Teachout be paid $200.00 for expenses. The motion was seconded and carried by voice vote.

There was long discussion and consideration of the "rests" problem and of various classes for registered competition. President Mohnkern suggested that no action be taken at this session but that the Directors "sleep on" the various suggestions of this day and be prepared for action on them the following day. He recessed the meeting until the forenoon of September 26th.

September 26, 1958. President Mohnkern reconvened the Directors' meeting at 10:45 A. M. in the John Zink Ranch clubhouse with all those present on Sept. 25th in attendance.

The Directors immediately went to work on rules, regulations and classes for registered competition, as follows:

RESTS: Unrestricted Rifles, OPEN CLASS—the front and rear rests shall be two completely separated units, not attached to each other, the rifle or the bench. They may be made of any material and may have lateral or vertical adjustments, or both.

Unrestricted rifles, LIMITED CLASS—the front rest may be made of any material, may have lateral or vertical adjustments, or both. The rear rest must be a non-rigid, loosely packed, nonconforming, dry sand bag or its equivalent. This rear rest cannot have any mechanical adjustments or containments of any kind.

Either or both classes may be fired in registered shoots at the discretion of the match sponsors, but the program for all registered shoots must specify which will be fired.

VARMINT RIFLE: Heavy Varmint Rifle class—the rifle may be of any caliber, weight not to exceed 13 pounds with scope, no limitation on power of scope. The barrel diameter must not exceed .9 inch at muzzle or 1.25 inch at breech and at no point between muzzle and breech shall the barrel be larger than it would be if the barrel had a straight taper from breech to muzzle.

Light Varmint Rifle class—the rifle may be of any caliber, weight with scope not to exceed 10 pounds, and scope not to exceed 12 power.

SPORTER RIFLE CLASS: The rifle may be of .23 caliber or larger, weight not to exceed 10 pounds with scope, scope not to exceed 6 power.

STOCKS for both Varmint and Sporter classes: The rifle stock shall be a plain, commercial, conventional design, width not over 2½ inches at any point, with no added guides or slides allowed.

RESTS for both Varmint and Sporter classes: The maximum rests allowed shall be an adjustable rest in front with rifle resting on a contained sand bag and at rear, under butt-stock, a plain, nonrigid, soft, pliable sand bag, on bench top without other support.

The above rules were adopted on motions properly made and seconded and carried by unanimous voice votes.

Gottschall moved and Brown seconded: "That the NBRSA will not recognize any group or aggregate records in any class for the calendar year 1959, which shall be considered a trial period." Motion carried by voice vote.

Gottschall moved and Brown seconded: "That Directors be allowed 5¢ per mile from home to Annual Directors'

Meetings and return. Motion carried by unanimous voice vote.

President Mohnkern recessed the meeting until afternoon.

President Mohnkern reconvened the meeting at 4:35 P. M., September 26th at the John Zink Ranch clubhouse.

Barton moved and Brown seconded "That the BR 100-2 target (same overall card size as the 200 yard BR 200 target) be the official 100 yard target at all NBRSA registered matches after January 1, 1959." Motion carried by unanimous voice vote.

There was a discussion about a dual National Champion in 1959. The consensus of opinion was that a decision be left until a tabulation of percentage of competitors in the two rests classes in early season matches can determine its feasibility.

The President called for nominations for officers to serve in 1959.

Rod Janson nominated Irven M. Mohnkern as President and Hankins seconded. Hankins moved nominations be closed and Janson seconded.

Hankins nominated Paul O. Gottschall as Vice President and Janson seconded. Janson moved and Barton seconded that nominations be closed.

Brown nominated P. H. Teachout as Secretary-Treasurer and Barton seconded.

Hankins moved and Brown seconded that the Secretary cast one vote for the election of the officers nominated. The motion was carried by unanimous voice vote and the secretary cast the vote to elect.

Janson moved that the meeting be adjourned. The motion was properly seconded and carried by voice vote and the President declared the meeting adjourned at 5:00 P. M.

A True Record
P. H. Teachout, Secretary
Irven M. Mohnkern, President

SECRETARY'S COMMENT ON 1958 NBRSA DIRECTORS' MEETINGS

A bit of explanation as to why minutes of meetings held in September are published the following February is first in order. At the meetings, the secretary recorded the minutes in longhand. After returning to headquarters, and catching up on some of the most pressing immediate work, the longhand minutes were typed and transmitted to the President. The President had copies duplicated and sent a copy to each Director for examination, checking, and making any corrections found necessary. The Directors are very human persons and, like you and I, are at times a bit on the slow side in taking care of correspondence. The checked and approved typed original of the Minutes arrived back here at headquarters early in January and February is the first issue of Precision SHOOTING they could be published in.

The minutes of the 1958 annual NBRSA Directors' Meetings, published herewith, are a bare record of the actions taken and for use as future reference. They do not give any picture of the time, discussion and consideration that preceded the actions taken, as recorded in the minutes.

The Directors were faced with more than normal problems at the start of these meetings, and the Directors were most certainly **not** of one mind as they started to consider these problems. The Directors do each represent the members in their respective Regions, as they understand the desires of both the majority and minority of those members. The underlying thought governing final action at these meetings of your Directors is: "What will be best for the whole NBRSA?" They may not end up with the exact action that any of them had in mind at the beginning of its consideration, but it will be what they, as a group, believe will best serve the greatest number of the whole NBRSA membership. They do not even **think** that they must always be right. A case in point is their action in making 1959 a year of trial for the competitive program under the rules adopted and, for this reason, with the numerous classes, the decision to not recognize any records during this trial year.

You will note that in one of the early meetings a change of judging committee and provision for measuring and judging record targets was made, and a Vice President elected to head this committee, and later made no work for the new officer and his committee to do in 1959. However, machinery is ready for judging when there may be something to judge.

As mentioned earlier, the Directors honestly try to represent their Region's membership, the while considering what is best for the entire NBRSA membership. But your Director cannot properly represent you if he doesn't know your viewpoints. Let your Director have your criticisms about the NBRSA and your Region, and try to offer some suggestions on what you may think may benefit both, and do it in a letter. The letter will later jog the Director's memory and will provide evidence if he ever needs to fight for you and your region at Directors' meetings.

Phil Teachout

MEMBERS LETTERS

Dear Phil:

I don't have too much in cold facts on the International (6mm). I have made up only one rifle in this caliber to date but I am due to put together another as soon as some of this work lets up a little. The present rifle, with all the breaks against it, is behaving in a sensational manner.

Last Labor Day I went to a Bench Shoot at Yreka. I gave one of the poorest exhibitions of shooting I have ever done. We had a wind condition there that changed from any of four sides during each string. Rod Janson wrote Jack Sweany it was the worst shooting conditions he had ever seen. With my .222 Rem. on a Model 70, Douglas barrel, an outfit that averages 1" at 200 yards in good conditions, I was shooting 3.5" and 3.9" groups at 100 yards, until I got out my 6mm-Vraminter. This dropped my group size **right now.** This rifle is 13 lbs. with my Lyman Super. Yet despite the light weight it outshot my 20 lb. .222.

The 6mm-Varminter, however, does have the problem of fouling up. This is one of the troubles we have when we try to speed up a bullet too fast. The shooter should remember a bullet is nothing more than a Bearing when it is running down a barrel. Cutting down the load to get proper velocity left too much air space for good ignition.

The 6mm Donaldson case looked about the thing I would have to try next, but I delayed as I wanted something the fellows would not have to go to so much trouble to get cases. I was about to make one up when Mike Walker put a note in the "answer" column about a .250 case with a ⅜" neck. This sounded a bit like what I wanted so I wrote and asked Mike for his chamber measurements. They came and I sent them down to Keith Francis for gauges and reamers.

I would like to put in a word for Keith here. He is at present the only one that can give us Elliott quality reamers and tooling without having to wait years for them. His tools are as fine as any I have ever seen.

Keith sent the tools up in a very short time. When they arrived I was in need of a rifle for the local Turkey Shoots and this sounded like the thing I would need. On hand was an old Springfield action, N. R. A. stock, Garand Speed lock and Canjar trigger. The barrel was a Douglas #6. I ground the outside in the lathe and fitted it up. I was in such a hurry to see what it would do with the hunting type scope I was going to use that I didn't even try it out with a target scope. I didn't even have time to get the sizing die hardened, but sized the cases in the soft die. I ran 80 cases through the die without any trouble. Loaded 32 grains 3031 and started for the range. We spent too much time batting the Weaver KV scope reticle back and forth trying to get the parallax out at 100 yards and finally gave up when it was down to about ¾ minute.

The first day, using a stock not perfect for this barrel, a scope with excessive parallax, starting loads not worked out for best results, and the rifle shoots eight 5-shot groups the largest being ¾". Copper fouling is at a minimum. I have about 160 shots through it now and not yet has this gun shot a group larger than this. For a 12 lb. rifle to do this without proper bedding, with a scope not made for close work, and 70 grain bullets not made particularly for match work, is to me a sign of very good prospects. This is where it stands now.

I put this gun together so fast I even had the stock bearing unevenly in the barrel channel. I don't send out this kind of work to the fellows who want a gun but have to get my own guns out in any way I can and sometimes I don't have a chance to get them good when it's time to go to the range.

Geo. M. Fullmer
Oakland, Calif.

Dear Phil:

Your column "Help The Beginner" in the December '58 issue motivated this letter. The reason for my being a member of the NBRSA is primarily to gain more knowledge of "precision shooting." I am not a bench rest shooter from the competition standpoint, mainly from lack of time, secondarily from a paucity of trading checks. This one man operation of mine calls for spending nine hours a day six days a week with my nose to the grindstone, so any competitive shooting I might do has to be at matches within easy reach on Sunday and there are no bench matches held that close. I **do** get a little shooting in smallbore and hi-power tournaments.

What bench shooting I do is on my own bench with my .22-250, Douglas barrelled and with Owen laminated stock. This rifle is capable of less than ½ minute groups, as it has proved on occasion, but I am sure it can be made to do better with further experimentation. That is where Precision SHOOTING comes in. I carefully read every letter and every article in every issue. I have learned a lot from that reading but I am certain that there is a whale of a lot more that experienced precisionists can tell me through your columns. For

(Continued on Page Sixteen)

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POSTAL BENCH REST MATCH

Shooters in Anchorage, Alaska and at Richmond, California recently completed a postal bench rest match. The Alaska shooters reported that they fired their targets on outdoor benches in ten below zero temperature, while the California shooters fired in a fifty one above zero temperature, and thought that was cold.

The match called for ten 5-shot targets per shooter, with two targets being fired at one sitting, all at 100 yards. The aggregates were:

California		Alaska	
Joe McPhillips	.5444	Donaldson	.5560
E. P. Hinkle	.6270	Joern	.6495
Geo. Fullmer	.6319	James	.7059
Ed Suchan	.7336	Curtis	.7634
Jack Sweany	.8130		
	2.5369		2.6748

The targets were all measured with Sweany reticle rules, Jack Sweany measuring the California targets and D. Rod Janson measuring the Alaska targets at Seattle, Wash.

The California shooters didn't have a very big edge over the Alaskans, an average of .6342 to .6684 per shooter. This match appears to have a special interest due to the wide difference of temperature the two groups shot in.

For the California shooters, Hinkle shot a 6mm with Sierra bullets in Apex barrel and made smallest group of .280". McPhillips made second small group of .315". Sweany shot a 13 lb. gun off sandbags while the top four shot heavy bench guns off some type of mechanical rests.

For Alaska, Joern shot small group of .300" and Scott Donaldson had next smallest with .364". No information on the Alaskans' equipment.

If other clubs might like to try postal matches with the Anchorage shooters in the winter they should contact Scott Donaldson, Box 525, Ancohrage, Alaska—and send your letters air mail. The fellows in Alaska like the winter matches because they have more time for shooting then—so many things that can only be done in the summer season keeps them right busy then.

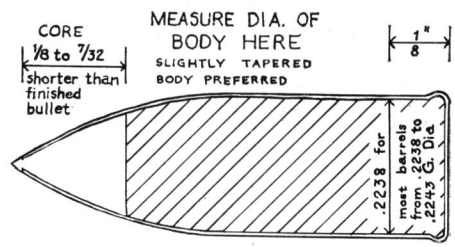
MID-CONTINENT REGION NEWS

WICHITA: At the annual meeting of the Wichita Bench Rest Club in December, H. W. Barton was re-elected President and Bert Volker (900 Peterson, Wichita, Kans.) was elected Secretary-Treasurer.

The Club came very near losing its range lease but the lease is now renewed for two years and the club will hold five registered shoots in 1959. Unrestricted and varmint rifle shoots will be held on April 5, May 25, August 8 and October 3; the April shoot a day-time shoot and the other three night shoots. The Kansas State Championship shoot will be July 3 and 4, with unrestricted rifle matches on the two nights and varmint and sporter rifle matches the afternoon of the 4th.

TULSA: Ed Grishaw was elected President of the Tulsa Bench Rest Rifle Club at the annual meeting, January 16th, and E. A. Anderson (3604 So. Toledo, Tulsa, Okla.) was elected Secretary. It was decided to hold three registered shoots in 1959 (dates not yet set) and as many informal shoots as possible during the year.

ST. LOUIS AREA: The Nine Ring Sportsman's Club, near West Alton, Missouri, has just recently become affiliated with the NBRSA. The club has 8 benches under its firing line cover and lighted target butts for night shooting at 100 and 200 yards. Mr. Richard E. Davison, Route 1, Box 812, Florissant, Missouri, is the club secretary. The club plans to hold some registered shoots in 1959 but dates have not yet been arranged.



Pronounced Swell, usually called a Pressure Ring, can be .0002 to .0007 over groove dia. of the barrel without harmful effect. In fact it usually improves the bullet. Best bullets seem to be from 51 to 54 Gr. Wt. and made from .705 Jackets so that core is shorter than formerly recommended. This produces a bullet wherein the core receives a minimum of deformation during the swaging process.

ABOUT BENCH REST BULLETS

By Paul O. Gottschall

Most of us bench rest shooters have had so many things, which we were convinced of at one time, turn out to be merely circumstance and not even important, that we are slow to get out on a limb with ta positive statement.

However, over a period of time and after many comparisons, something does stand out about bullets for bench rest shooting. Practically all bench rest shooters talk about bullet diameter compared to bore and groove diameter of the barrel. Now, our method of making bullets in Biehler type one piece swages leads to a tendency to produce a "pressure ring" at the base of the bullet, such as shown in the sketch. We have found that this so-called pressure ring can be from .0002" to .0007" over the groove diameter of a bench rest barrel and do no harm to accuracy.

All of us thought a few years ago that a good bullet had to have a true cylindrical body no larger than the groove diameter of the barrel and I was fool enough to chrome plate my Biehler swage in 1955 to stop the pressure ring that was forming on my bullets after about 5,000 bullets had been swaged—I was convinced my swage was wearing out. I was real proud when I had lapped the hard chrome back to the original size so that I could produce true cylindrical .2239 to .224 bullets.

Since that time I, along with the entire Reed's Run Rifle Range fraternity, have found that true cylindrical bullets **are not** the best.

The only fault that can be found with the bullets such as I describe in my sketch is that you must adjust for the pressure ring and taper on your neck sizing of the cartridge cases.

You will need to neck size your cases in such a manner that the bullets start into the cases easily and tighten up when they are fully seated. I ream the mouth of any .22 cal. case with a number 4 taper pin reamer which can be obtained from any mill supply hardware store. A straight flute carbon steel reamer is cheaper **and better** than any other type for this purpose.

Letters

(Continued from Page Three)

mer for some five years and the Winchester for about two, and hand load all ammunition for both. I have also owned Varmint Rifles in .22-250 caliber (heavy custom Mauser '98), .22 Hornet (Brno) and .219 Wasp (Winchester Hi-Wall), the last being the prettiest rifle ever to grace my rack, but the one which would never shoot worth a cent for me, in spite of all efforts.

A few of us local enthusiasts operate a Bench Rest Club at Nobleton, about 30 miles north of Toronto. We have 5 outside benches, ranges to 450 yards, and this Fall we constructed a small building 10' X 14' which is equipped with a stove and from which we can shoot in winter. This was built with Club labor and has added considerably to our winter enjoyment of the sport.

After some experience in shooting out of a port in the front of this shack on a cold day with a fire in the stove, mirage has been found to be most disconcerting. The warm air flowing out of the building through the open port surrounding the scope sight makes the target appear to dance crazily. This method has been abandoned in favour of shooting from one of the open benches, and using the shack as a "warming-up" shelter between strings.

Club policy is to accept membership from firearms enthusiasts of all types. Of our total membership of about 25, some are Bench Rest "purists," some are pistol shooters, some varmint hunters, some whose interest is primarily small-bore and target shooting, but all of them are dedicated to some form or other of firearms enjoyment. Our experience with this "pot-pourri" of powder burners in one club has been quite satisfactory.

We hold one or two very informal matches each year, and try to cater to the interests of all. Last year I had the pleasure of winning one Bench match, shooting my 7 pound BSA .222 against several "pure" Bench Resters. This little rifle has always delivered the most astonishing accuracy, and will consistently keep 5 shots in half a minute of angle with occasional groups running much smaller. I have never found it necessary to touch the factory bedding or to tune this gun in any way. I shoot a load of 20 grains of 4198 behind the 55 grain Hornady spire point with Winchester #116 primers, and never alter this combination from one year to the next. This rifle has over 3,000 rounds through it now and still shoots as well as it ever did. It is my favorite rifle, and if I had to part with all of my guns save one, this is the one I would keep. It has been a most plesaant and trusted companion on unnumbered chuck and crow outings.

The Model 70 Featherweight is also a superb light rifle. It was not always so however, as when received the bedding was very poor. Just for fun I shot it the way it came out of the box and it would not stay on the 100 yard Bench target with factory or hand loads.

The action recoil lug lacked a good sixteenth of contacting the rear of the slot in the stock and repeated firing curled a small shaving from the rear knife edge of the tang, as all the recoil force was being absorbed either by friction between action and stock, or by the rear of the sheet metal magazine box. An evening spent correcting this situation with Prussian Blue, Chisel and Gouge, transformed this rifle into a consistent ¾ minute piece. To maintain this accuracy it must be shot with the barrel cool. I find that a rate of fire of more than one shot per two minute period on a warm day will "walk" the group. On cooler days this rate can be speeded up considerably without accuracy suffering. My standard load for this rifle is 44 grains of 4350 behind the 85 grain Sierra bullet using Dominion #8½ primers. The sheer joy of folding a chuck with this rifle and load at a range of ¼ mile has to be experienced to be believed. Incidentally, I use Weaver K-10 scopes in modified Weaver mounts on both of the rifles described above.

Phil, as you may have guessed from reading this far, I really get a big kick out of getting a light rifle to shoot well. I have read Col. Whelen's writings widely and was always impressed by his admonitions to riflemen not to expect too much from their weapon. In his experience a consistent minute of angle hunting weight rifle was as rare as hen's teeth. You can therefore imagine my pleasure at having the good fortune to possess not one, but two such rifles. I do think though that the Colonel would be the first to admit that improvements in components in recent years have gone a long way towards making possible as an every day occurrence accuracy which would have been miraculous 10 years ago. It is my considered opinion that this is largely due to superior bullets. Not long ago I was given some old jacketed 54 grain Sisk-Neidner bullets from the estate of a shooting friend who had passed to the Happy Hunting Ground. These bullets would barely hold inside 1½ minutes in the .222. This rifle has never been fussy as to bullet choice, shooting Sierra, Hornady, Speer and Sisk modern bullets with almost equal precision. With these older bullets, such accuracy was unobtainable. Admittedly nothing is proved absolutely by such a limited test, but to me it tends to indicate the truth of the above thesis.

While on the subject of accuracy from a light rifle, I would like to direct a beef to the factories. For some peculiar reason most Domestic makers insist upon mounting an abominable open rear sight on the barrel. Much has been written about this unfortunate fact in the past, and Col. Whelen has been most vociferous in condemning the practice. To my mind what is far worse than the sight itself is the transverse dovetail cut made in the barrel to accomodate the sight. This has the effect of causing the barrel to warp as its temperature changes, and to increase group size as a result. Surely no one who spends considerably more than a century note for a rifle would tolerate these factory sights for five minutes. Since all manufacturers seem primarily interested in cutting cost these days, I humbly offer the suggestion that they save a buck by install-

(Continued on Page Fourteen)

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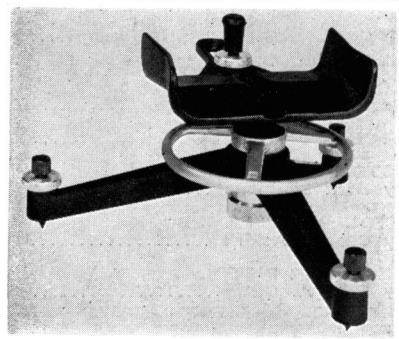

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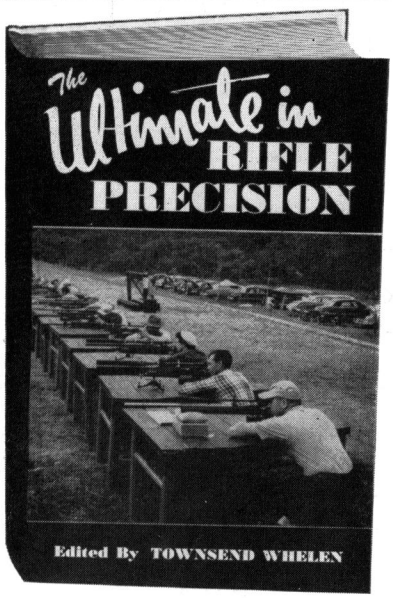

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WHITNEY .22 AUTO PISTOL

By Kent Bellah

The historic name of Whitney is now on a modern .22 Auto pistol. There is no connection with Eli Whitney, the Connecticut Yankee who made interchangeable parts possible in 1789, to revolutionize the firearms industry. Whitney was famous for the cotton gin and many other inventions.

Some unique design and function features are in the $39.95 Whitney that may be casting shadows of things to come.

Autos have a nasty habit of jamming, sometimes seldom, but they jam. I've fired one Whitney over 3,000 rounds with assorted fodder and never a jam. The same gun has been loaned to a number of friends and it hasn't jammed yet. No telling how many rounds of old and new, standard and Hi-V fodder it has digested. It has out-functioned any .22 Auto I ever owned.

This may be partly due to the magazine, that I consider the best ever made in this caliber. It is a real heavy-duty type that should be far more durable than conventional magazines. A major feature of the Whitney is the straight feed that eliminates battered bullet noses. There is no guide ramp in the magazine or barrel to guide cockeyed cartridges into a chamber with nose deformation. The tapered magazine feeds rim cartridges perfectly, with practically no friction, directly in line with the bore. The magazine follower is easily depressed with an empty case.

Lacking one, a live round, your fingers, a key or other small object can be used.

I think the best feature of the Whitney is the way it handles. The 23 ounce featherweight points as easily as pointing your finger, and in the same direction. This, along with the large hand safety guard, allows extremely fast recoil recovery for rapid fire. The hand-filling handle is correctly shaped and at the correct angle for natural pointing, with a perfect balance. The external visible hammer is well shrouded, has an important "slip safety" notch. (This is not a "half cock" notch.) It also has an automatic magazine disconnector safety, and a manual safety that is "On" in the down position.

This is a plinker, not a target gun, but the sights are non-recoiling. The rear slide can be adjusted for windage. The steel guts, including the barrel, are housed in a pressure cast Duraluminum frame, and can be completely field stripped quickly without tools. The "works" are held in the shell with a nut on the muzzle that is held in place with a spring loaded lock plunger. There is very little strain on the frame from firing, and no battering on the casting.

The casting allows a modern, streamlined shape, that would be expensive and complicated to machine from forged steel, and reduces the price by more than half. I think it will last the life of the gun in normal use, and it has some advantages over a welded steel stamping.

The trigger pull on my gun was near 4 pounds, with just a bit of creep. A gunsmith friend worked it down to 41 ounces and proceeded to shoot a group that nearly equalled his expensive target pistol. A target grade Whitney would probably make the paper punchers sit up and take notice at the price and performance; I hope to see one on the market before long.

Magazine capacity is 10 regular or hi-speed .22 L. R. cartridges. Overall length is 9" with a 4⅝" barrel. Height 5". Trigger is grooved, listed at 2¾ to 4 pounds. An excellent ⅛" Partridge type front sight is on a full length nonglare, serrated sighting plane. An attractive outside finish is matt and bright Dual Tone Blue. Stocks are nicely checkered, well shaped walnut color plastic. The gun has a large size for its weight, and a wonderful feel that fits most any hand. Non-recoiling sights are an accuracy feature. Cartridge rims can't clog-up in the most excellent magazine. Bob Hillberg's creation is a neat looking plinker with some qualities that maybe a preview of better auto pistols in the future.

There is no reason why this design could not be made in .38 Spl. or .357 Magnum. A target grade .38 Special Auto that would dependably feed rim cases and wadcutter bullets would sell like hotcakes to those who can't afford a custom Shockey or Clark custom Auto. A light .357 Auto would appeal to many law enforcement officers, and the NATO 9 MM may be our service caliber someday. Bob's straight line feed and perfected (or near perfected) magazine would allow any type of bullet to be used in rim cases with dependability, and in an inexpensive but quality gun.

WE HAVE ON HAND a new press from BELLOWS & SON, Wilcox, Pa., which is designed especially for jacketed bullet swaging. It looks good. Now waiting for a set of .30 caliber bullet swaging dies from BAHLER DIE SHOP, Coos Bay, Oregon, and when they are received will test both items and report on them.

Letters

(Continued from Page Thirteen)

ing no sights at all on their new production, and **please** no cuts, lumps or hold down screws in the barrel itself. These remarks of course apply particularly to bolt action weapons. Carbines and other lever, pump or automatic actions are essentially designed for short range shooting and seem to be the primary choice of brush hunters. On such rifles open sights are less of an evil. Of course the real riflemen will choose a telescopic sight, or an aperture receiver sight for all his shooting. Such sights tend to be expensive, and their final choice is better left to the individual rifle man after he has purchased his weapon.

Lastly, Phil, I'd like to cite my experience with the smallbore target rifle. I purchased one of the earliest C model Winchester 52's in heavy pattern about 1951. This had the new "Miracle" trigger. The only miracle about mine was that it succeeded in firing the rifle at all. Side play was very bad and the pull varied considerably from shot to shot. I complained about this to Winchester and they took the rifle back and replaced the trigger free of charge. The new trigger is very good and no trouble has been experienced with it since.

Shortly after buying this rifle the so called "Electric Bedder" became popular and I installed one of Al Freeland's. To be truthful, the rifle in its original form shot very well without a bedder, but I made a bad score in an important match and was looking for an alibi. After installing the bedder I expended several hundred rounds of match ammo seeking the best setting. I cranked those screws all over the map, and while I did change the group centre each time, I noticed no perceptible variation on group shape or size with the various settings. Test shooting was both Bench Rest and from the conventional prone position. I used this bedder for about five years but was never convinced that it did anything to improve scores. I have very recently had this rifle rebarreled with one of Clyde Hart's fine tubes, and have discarded the bedder entirely. The action is now bedded in glass reinforced Polyester resin and I carried this about 2" forward of the receiver into the barrel channel leaving the rest of the barrel free floating. This was my first experience working with Plastic bedding, and it certainly made a nice looking job. Preliminary testing on the indoor range have indicated a very high degree of accuracy from this outfit, and shots can be called at any point in the X-ring.

This experience with bedding leads me to the conclusion that the main factor with the fit of wood to metal contributing to accuracy is uniformity. I really don't believe that an elastic bedder or any tensioning device of itself helps accuracy. The main thing is to strive for a fit of wood to metal which does not change with changes of temperature, humidity or sling tension.

For a rifle shot in the prone position, I do not believe that a completely free floating barrel is a good idea. Most .22 match rifle receivers are not rigid enough to hold a heavy match barrel cantilevered out in front. The effect of pulse beat in a tight sling is always present to some degree and that barrel hanging out in front is going to behave exactly like a springboard with a kid jumping on it. This effect would be minimized if the factories would build receivers for match rifles with the following characteristics: (A) Heavy walls with a minimum cutout for loading and extraction. This would

mean using special left hand actions for southpaws. (B) Front receiver ring long enough for adequate thread bearing of barrel. A good rule here would be 1½ times mean barrel diameter. (C) A receiver with flat bottom to permit better bedding. The magazine should be eliminated and replaced with a loading platform a la Remington 40X. (D) Closer fit and better finish of bolt and receiver to maintain constant alignment.

Phil, it is obvious that these features would cost money. However most match shooters seem dissatisfied with available factory rifles to the extent that they soon modify them to their own requirements, often at greater cost than the original purchase price. I am sure they could be provided by the factory in the first place at much less cost than the subsequent scrappage and replacement.

And now a word about a pet theory which I have not yet had an opportunity to try out. Most match barrels are about 28 inches long. The approximate barrel time for .22 rimfire match ammo would be 0.003 seconds. If barrel length is reduced to 14 inches, barrel time would be almost halved. I say "almost" because the time to accelerate the bullet from rest to terminal velocity would be about the same in each case. The effective barrel length, desirable for sighting radius with iron sights, could be retained by freeboring the rifle in from the muzzle a distance of 14 inches. The reduction in barrel time using this method would minimize errors in "follow through" and holding. If anyone reading this letter has experimented along these lines I should be happy to hear the result.

I'm afraid this turned out to be much longer than originally planned, Phil. Please forgive the rambling but the thoughts expressed have been rattling around in my head for a long time and may provoke some comment from your readers.

Yours sincerely,
Robert W. Boyd
16 Sandalwood Place
Don Mills, Ont., Canada

Dear Phil:

As you may know, there was considerable talk at Camp Perry about eliminating the Bolt Rifle Aggregate from the High Power Championships and making the entire matches the military matches they are fast becoming. I am opposed to this change, since it will discourage the individual civilian shooter who must be the backbone of the shooting game. The M1 rifle is such an ornery piece of machinery the services of a full time armorer are needed to keep most of them going. This inequality of weapons in the National Service Rifle Championship has been floating around in the back of my mind, and has finally generated a solution.

You may disagree with me completely, but the limited number of people I have discussed my plan with were in complete agreement with its features. I am writing to the DCM and various dignitaries at the NRA about it. The easiest way to explain it is to quote the letter I am sending to the powers that be.

"To a large degree the National Service Rifle Championship has become a test of armorers rather than of riflemen. The winner (a member of one of the big military teams) certainly does turn in an outstanding performance and deserves his victory, but he represents only a small privileged segment of the total group of competitors since he was shooting one of the guns on whose selection and preparation literally hundreds of man-hours were spent. These specially prepared match conditioned weapons are available now only to members of the All Army, Navy, Coast Guard or Marine Teams, and a few other military teams of almost equal size and resources. The balance of the competitors (perhaps 95% including most if not all the civilians) are 'second rate citizens' as far as weapons are concerned. The weapons available to them are generally incapable of shooting a winning score from a machine rest on a windless day, much less from the shoulder under match conditions.

"The civilian shooter will always be handicapped as far as practice, coaching, etc. is concerned, when competing with unlimited military teams, but he does deserve the privilege of using the same weapons in the National Championship. (The Military might well bear in mind that their competitive shooting program to a large degree must depend on the understanding and goodwill of the civilian taxpayer and especially the civilian shooter.)

"Fortunately there is an easy method avaliable to give every competitor, both civilian and military, an equal break on the weapons. We can simply apply the I. S. U. regulations for military rifle shooting to our own championship. Briefly, the plan is this.

"A number of rifles (one for each competitor plus a few spares) are match conditioned in identical fashion prior to the matches and then placed in bond until two days before the matches begin. Each competitor then draws a rifle **by lot.** He must shoot that rifle **as issued** in the matches. Only the official match armorers are allowed to make any adjustments. A seal could be placed on each gun which must remain unbroken until the matches are completed. The day prior to the beginning of the matches would be devoted to sighting in at each range through 600 yards.

This plan represents a reasonable, workable and above all fair way of running the Service Rifle Championship. This latter feature, fairness, may receive a cool reception in some circles, but it would do away with such shenanigans as the ill timed (a most charitable way of describing it) authorization of half minute clicks just prior to the 1958 matches. In some circles winning the championship is apparently the paramount consideration. It is high time it is done exclusively by skill with a rifle, not by regulation."

I don't expect a very warm reception from Washington. If you think this plan has merit perhaps you can add a little fuel to the feeble fire I can start as an individual.

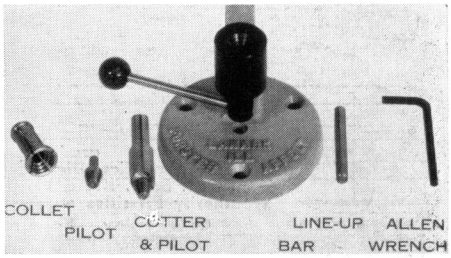
Best wishes,
Donald P. Hallada
2201 N. Franklin St.
Wilmington 2, Del.

(Editor's comment: This writer

(Continued on Page Sixteen)

NEW

Forster-Appelt Power Case Trimmer



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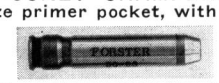

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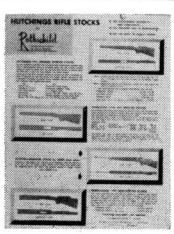

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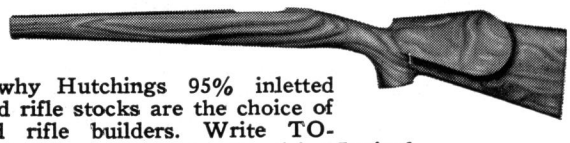

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Letters

(Continued from Page Fifteen)

has no personal first-hand knowledge of what has gone on at the National Matches at Camp Perry in recent years. However, it does appear that the plan that Mr. Hallada suggests would be practical and workable, and should eliminate even the suspicion of unfairness, if it should be administered to both the word and the spirit intended, as it should be.)

Members' Letters

(Continued from Page Eleven)

example: F. L. Magoon's "Notes On Target Telescope Sights" led me to make a quick dash to my shooting box to check my scope for the conditions he mentions (other than the heat problem, of course). Just so can others with more knowledge and time for experiments help me by having their findings published in Precision SHOOTING magazine.

Let's put some more pressure on 'em, huh?

Earl J. Lucas
Sparta, Wisconsin

WHEN ANYTHING YOU SUBMIT is published in Precision SHOOTING it will be "your story"—not something edited beyond recognition by someone else.

FORSTER POWER CASE TRIMMER

By Kent Bellah

The Forster Precision Case Trimmer has been my favorite ever since it was developed by Henry Forster. I've trimmed .38 Specials at the timed rate of 600 cases per hour, although I can't maintain that speed for a long run. At least the operation is extremely fast and the trimmer accepts a larger variety of accessories than any other. This makes it more versatile and it does all operations with ample precision. Accessories include the Outside Neck Turner, an Inside Neck Reamer, Primer Pocket Cleaner & Center, and the Hollow Point Accessory that I suggested for hollow pointing loaded handgun cartridges.

Now Forster-Appelt Mfg. Co., Lanark, Illinois, has brought out a Power Case Trimmer for use in a drill press. The ⅜" cutter shank fits the smaller presses found in home workshops. The pilots, made in 17 calibers, have a tapered nose to more easily guide into the cartridge case neck. They can be used with some slight speed advantage in the hand trimmer, and they will replace the old type when present stocks are exhausted. The power model uses the same three Brown & Sharpe type Collets as used in the hand model for practically all cartridges.

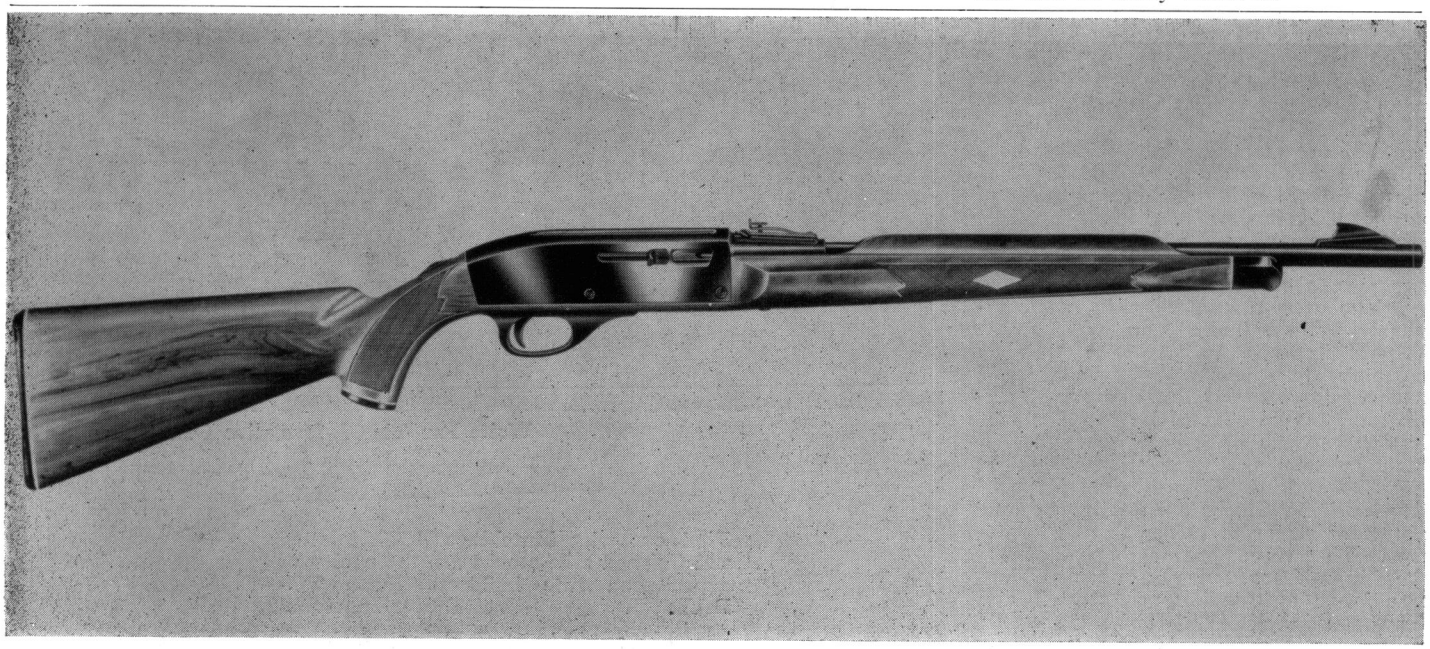
The cast alloy aluminum base of the new Power Trimmer has a neat gold anodized finish. The handle to tighten the collet that holds the case head is quite fast to operate, requiring less than a quarter turn to grip or release the case. A friction-fit "C" ring holds it in place for easy removal, while a larger ring acts as a stop to prevent the handle pushing through the collet screw. This is real neat.

Perfect alignment is insured with the included Line-Up Bar, which is locked in the collet, and the other end placed in the drill press spindle and locked. The trimmer base is now fastened to the drill press table with a ⅜" x 16 thread screw, the method I prefer. Three screw holes are provided for those who prefer to mount, clamp or fasten it by some other means. Like the hand model, the cutter head has slightly staggered cutting edges for chatterless cutting. It works beautifully at any reasonable speed.

Cases are trimmed as much as desired with practically no effort. This gives the power model special appeal for shooters who trim cases more than a few thousandths. You who have spent hours trimming brass for wildcats, etc, will know exactly what I mean!

The regular Forster Inside-Outside Case Deburring Tool accessory is used with either trimmer. This excellent tool allows case mouths to be examined after trimming and BEFORE deburring for uniform wall thickness. Granted, a visual inspection doesn't read in thousandths, but it does eliminate cases with extreme wall variation, which greatly reduces flyers, split necks, uneven crimps, etc. The Forster Outside Neck Turner accessory insures uniform dimensions, for accuracy fans.

The new Power Case Trimmer is $12.50 with one Collet and one Pilot. Additional Collets are $2.50 each, and any caliber Pilot is 50¢. A Conversion Kit is $9, including one pilot. The purchaser uses the Collet, Collet Housing and Collet Screw from his hand operated trimmer. The new type handle is included. This replaces the old handle in the Collet Screw, which is a press fit and can be easily removed.



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3. 300 Meter Aggregate score, Du Bois, Pa., 1957, Don Robbins.
4. First and Second places, 300 meters, Du Bois, Pa., 1957, Clair Taylor and Don Robbins.
5. National Match Course, Du Bois, Pa., 1957, 1st, 3rd, 6th, 7th places.
6. National Match 10-shot 100 yd. aggregate, Augusta, O. Al Creighton, .3105".
7. National Bench Rest Championship, Johnstown, New York, 1955, Sam Clark, Jr.
8. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1954, Sam Clark, Jr. Score, or Group, .5276"
9. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1956, H. L. Culver (Present record) Group size .4016"
10. 1000 Yard, Famous Wimbledon match, any sight, 1955, Camp Perry, O. Frank Conway.
11. 1000 Yard, Famous Wimbledon match, any sight, 1956, Camp Perry, O. Frank Conway.*
12. Newest National Match Course winner, Wichita, Kans., Sept. 28, 1957, H. W. Barton, official new record, .3729" M. A. average.

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The Forster Hollow Point Accessory is a little item I suggested some time ago, to use their case trimmer to drill a cavity in the nose of loaded handgun cartridges. It worked so well that I mentioned to Mr. John Appelt that riflemen needed a similar item for rifle loads. Seems he had been thinking the same thing, and they now have the Forster-Appelt "Universal" Hollow Pointer, that handles all rifle cartridges from .22 to .50 caliber. The unit is supplied with either a ⅛ or 1/16" drill, and works equally well in either the hand or power case trimmer. The ⅛" size will probably be the most popular, and is the one used with all the individual caliber Guide Bushings supplied for handguns.

The point must be removed from pointed bullets before drilling the cavity. This can be accomplished in a number of ways, the best being with another gadget I suggested, the Bullet Nose Trimmer for 30-06 cartridges. It consists of a Guide Bushing and Special Cutter, at $4.75, used the same way as the Universal Hollow Point Accessory. It does a beautiful, uniform job, to insure precision accuracy of the loads. A tremendous amount of G. I. ammo is available, suitable for plinking or targets, but totally unfit for game.

Our tests indicate G. I. ammo is quite effective with a ¼" deep cavity using the ⅛" drill. Cast bullets expand well with the depth only ⅛", as do the .300 Weatherby Magnums with G. I. bullets. Factory loads, or cast bullet handloads in a 30-30 seem to be nearly twice as effective with a ¼" deep hollow point, which puts this popular rifle in the class of more powerful guns, so long as game is in 30-30 range. Smaller bore rifles will be best with the 1/16" drill.

The .300 Weatherby Magnum has made a reputation by stopping cold everything up to and including the largest game on earth with one shot. It has brought down the smaller species at amazingly long range. even with hits that missed vital spots. In addition to being a clean-killing caliber, it's delightful for plinking. When your companion shoots through trees with a '06, you can demonstrate the advantage of Hi-V by shattering the trunk like a strike by a lightning bolt. Too late to yell Timber! when the hammer falls. 83 grains of 4350 drives a 150 grain pill at more than 3,600 fps 'way across the prairie with extremely flat trajectory.

REAL shooters may have to suspend their activity for a spell for reasons beyond their control, but they don't quit. Case in point—Bob Spahr, one of the top smallbore shooters in Illinois, moved to Colorado two or three years ago and appeared to drop out of competitive shooting. The Los Angeles Rifle & Revolver Club weekly match bulletin for January 11th listed Bob among the competitors. His scores were a bit rusty but it wouldn't take him long to get back in his old form.

IF YOU HAVE any new or unusual items of equipment, or unusual applications of old items, we would welcome complete information about them, with good photographs to illustrate, to pass along to the rest of the shooting fraternity. Can use drawings if they will better illustrate what is being described.

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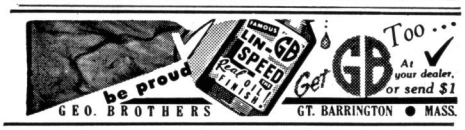

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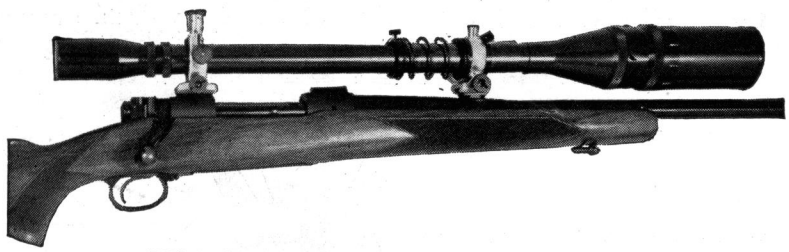

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NORMA MATCH GRADE PISTOL BULLETS

By Kent Bellah

Norma Match Grade Pistol Bullets give very fine accuracy. Most popular is the 116 grain soft point, round nose, a .355" diameter listed as 9 mm caliber. They have a thin, mild steel jacket around a fairly soft lead core. Hi-V accuracy can be obtained in .357 Magnums as the concave base expands the slight amount necessary to fill the grooves, which is more than I can say for some .45 ACP ammo.

The 9 mm pistols that I expect will be our service arm someday, have been neglected in this country. The 9 mm Luger ammo is so much underloaded that some Lugers will malfunction. The 9 mm Parabellum (meaning "Pistol for war") is almost as standard in many foreign countries as coffee and sugar in a grocery store. Winchester has made some experimental ammo that may almost equal the German carbine DWM-480D round that I've fired in Lugers and other arms. At least 100 weapons and 30 types of ammo are made for the world's most popular auto round. Some are pip-squeeks and some approach the .357 Magnum. Lugers function perfectly with hot handloads or hot foreign ammo.

My P-08 has lousy sights and trigger, yet functioned and grouped very well with Norma Match Grade bullets in the first and only load tested. This was 4.9 grains Bullseye ignited with C.C.I. pistol primers for a velocity of about 1,130 fps. Accuracy, that I believe was due to the bullets, was better than U. S. commercial ammo. No effort was made to work up best loads, which I'm sure would increase velocity and/or accuracy. One cartridge was fired with 6.5 grains Unique, which is getting close to the case capacity.

Using .357 Super-X cases, I loaded Norma Match Grade bullets ahead of C. C. I. primers and 18.5 grains 2400, which scoots the little pills along at close to 1,850 fps. It grouped like it was custom tailored for a .357 Ruger Blackhawk and the fast twist Colt Python, the only guns and load tested so far. Penetration far exceeds factory ammo.

In correspondence with E. H. Sheldon, President of Norma-Precision, South Lansing, N. Y., he wrote, "We have loaded as high as 19 grains 2400. We found the Ruger .357 shoots like a rifle with adequate expansion. Of course the Norma bullets eliminate leading, etc. The Norma factory has proved beyond a shadow of doubt that the bullet base expands to fill the bore, so no gas leakage can occur."

Mr. Sheldon, like many of us, enjoys handloading and shooting so much that he has to keep the brakes on part time, to have time to run a business. Business must be good, as more dealers are stocking Norma products to take care of a growing demand. Mr. Sheldon agrees that it isn't too bad to work for a lviing, as handloading and shooting make the living worthwhile.

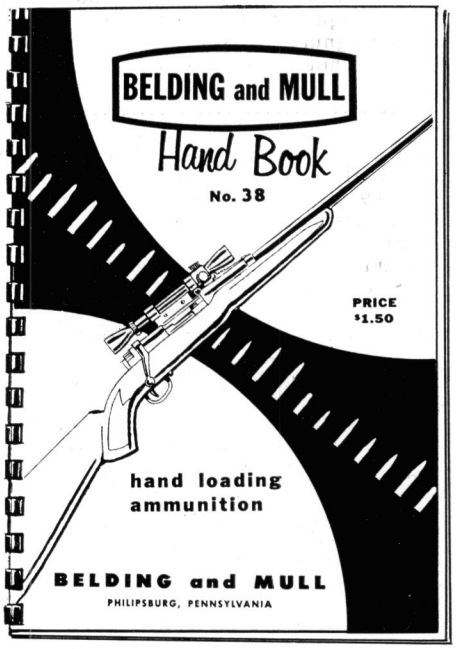
One shooter wrote me that he was getting 2" groups with Norma bullets at 50 yards, compared to 6" with his cast bullets. This large spread between jacketed and cast pills is not unusual. The polka-dotted pattern indicates something is wrong with his mould, alloy, casting, sizing or loading technique, perhaps in that order, or a combination of faults. It also indicates that Norma Match Grade bullets are definitely worth further experiments by those shooters interested in accuracy.

TRADIN' POST

Classified type ads; no display. Rates: — 10¢ per word per insertion, prepaid. Minimum charge $1.00. Closing date for ads is the last Saturday of the month preceeding publication.

Groups of figures, abbreviations and initials count as words. Hyphenated word counts as two words. Name and address of advertiser is counted. Use full words instead of initials and abbreviations and make your meaning entirely clear — get your money's worth.

FOR SALE: Bausch & Lomb BALSCOPE with 20X and 30X, carrying case, and Freeland scope stand. All excellent. $100.00 or offer. Also Swiss GUINAND stop watch, excellent, $35.00. Oliver C. Schmidt, Jr., 2316 Clover Lane, Northfield, Illinois.



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This Belding & Mull book is different from most hand loading hand books. In addition to the usual sound information on hand loading and loading data, plus the description and illustrations of the B&M manufactured products, including the B&M loading tools, the "visible powder measure" which is favored by many precision hand loaders, and the like B&M stainless steel cleaning rods, it is a catalog of the complete line of reloading supplies and components that this firm specializes in. The firm also offers a personalized information service on hand loading problems for those who need and desire it.

The new Hand Book may be obtained from sporting goods stores, or by mail from BELDING & MULL, Philipsburg, Pa. The price is $1.50.

The Urge To Win

(Continued from Page Two)

the following course which has worked many times in the past and will work again.

Select one type of shooting, preferably that which has the most participants and the stiffest competition in your locality. Set your sights on beating the best shooter in your club in the type of shooting you select and get **at it, now.** Get all the practice in competition in your club that you can and between shooting sessions do a lot of **careful** dry shooting in your home. When you have a slump, which you will, determine what fault is causing your trouble and correct it. Ask other shooters to point out shooting faults you have and suggest methods for correcting them. Try their suggestions fully enough to honestly determine if they will help **you.** A method that may work for someone else may not help you. Continually cultivate your "will to win"—having the urge to win has to be backed up by the "will" to do it.

When you succeed in beating your club champ, which you can do, immediately re-set your sights on the top shooter in your type of shooting in your state and go after him. As you reach one goal, re-set your sights on a more difficult one, and work a bit harder to attain it. How far up the shooting ladder you get will depend on how well you back up your urge-to-win with "THE WILL TO WIN." One caution. Never let your urge-to-win smother your good sportsmanship. That could make you a mighty unpopular shooter and lose you the real **FUN** of both shooting and winning. No one shooter is going to win all the time, but if you can't win this time you can "let 'em know you were there" and have some fun doing that.

You can say, "If this guy knows so much about it why doesn't he practice what he preaches?" Who? Me? I'm just too darn lazy and have too much fun just shooting this and that in a so-so manner. My urge to win barely more than does a slight flutter once in a while. If you want to win you go ahead and do as I say—not as I do. PHT

WE HAVE CONTENDED in the past that a rifle suitable for bench rest competition need cost little if any more than a quality rifle suitable for any other type of serious rifle competition. We are now promised an article for an early issue which will support our contention.

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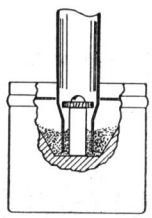

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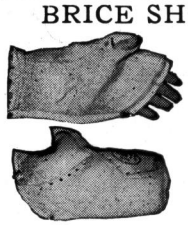

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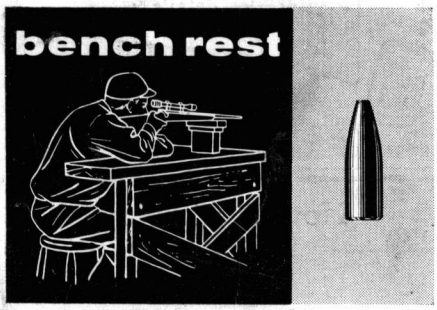

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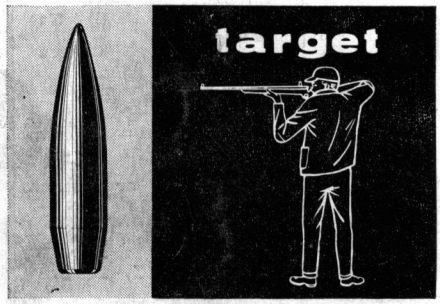

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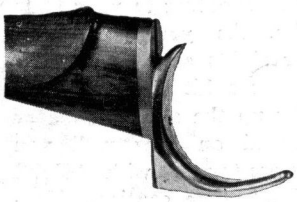

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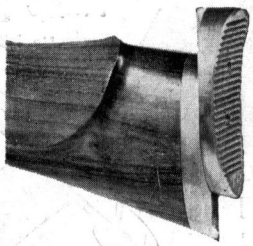

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